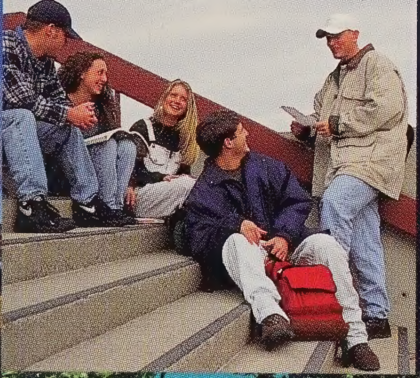
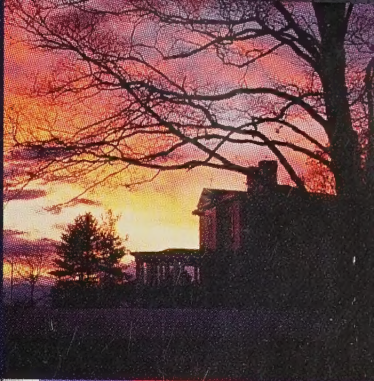
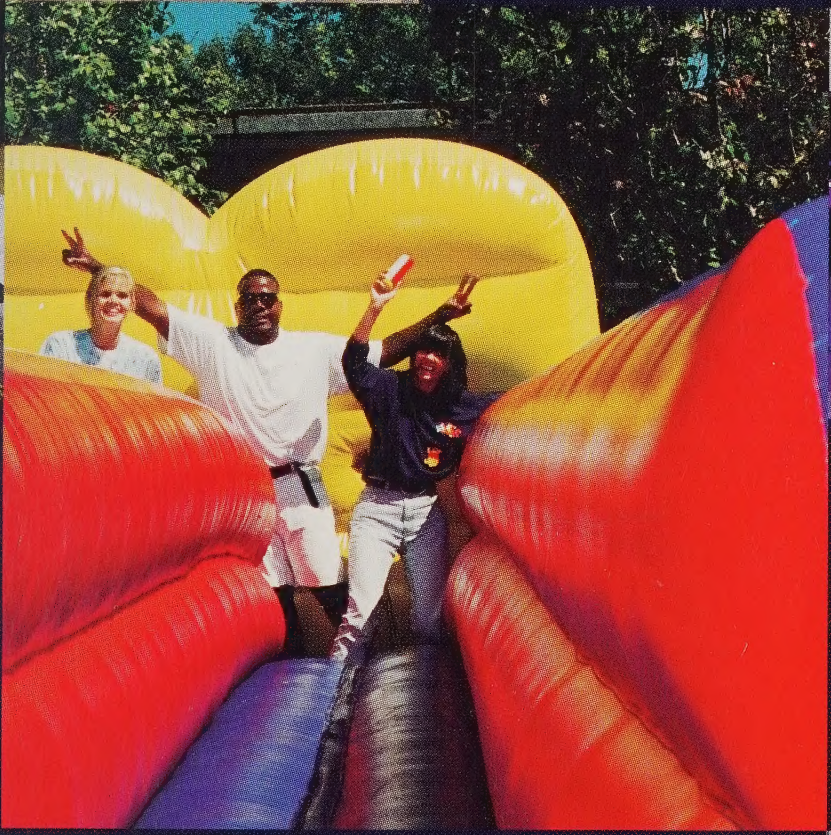
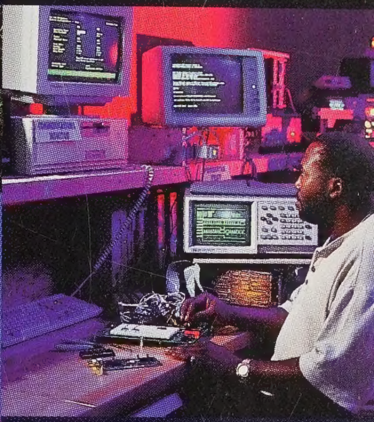



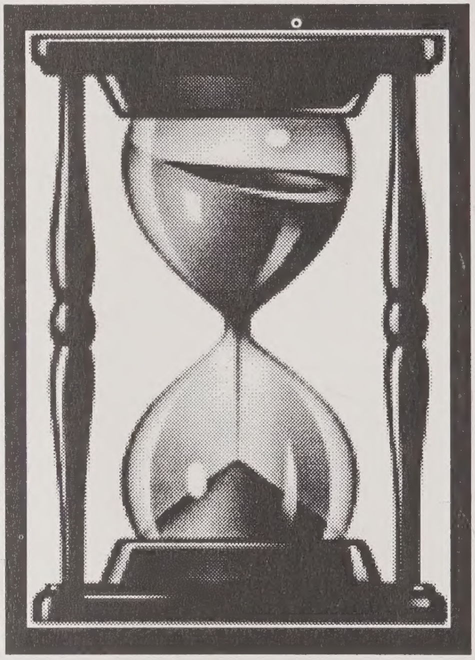



Make a difference.

1997
1998

Asheville-Buncombe Technical
Community College

SEMESTER Conversion



The North Carolina Community College System has reengineered all curriculum programs and courses.

There have been significant changes in the structure of all programs and courses. This is the first catalog on the semester system.

Asheville-Buncombe Technical Community College will make every effort to provide students with a transition that will be communicated clearly and allow for program completion in a timely manner. Although these necessary changes will result in challenges, numerous benefits for many students will be available through program and course standardization and improved transferability of credits to other Community Colleges and to senior institutions, especially the University of North Carolina institutions.

A new program of study has been developed for each curriculum area. Each student who has declared a major will be advised of courses needed for graduation.

All continuing students should work closely with faculty advisors during this process. Questions regarding semester conversion and program reengineering may be directed to faculty advisors, department chairpersons, deans, and Student Services staff.

Program requirements are subject to further change during this transistion period.

ASHEVILLE-BUNCOMBE TECHNICAL COMMUNITY COLLEGE

340 Victoria Road
Asheville, N.C. 28801

Phone: (704) 254-1921
TDD: 254-1921, ext. 444
or
Depress space bar several times for
Operator Assistance

www.asheville.cc.nc.us

Recognized and Approved by
North Carolina Community College System
North Carolina State Board of Education
North Carolina Office of Emergency Medical Services
Division of Vocational Rehabilitation
and for Veterans Participation

Member of
American Association of Community and Junior Colleges
North Carolina Community College System
Student Services Personnel Association
N.C.A.C.C. Instructional Administrators
Association of Community College Business Officials
American Library Association
Learning Resources Association
Council for Advancement and Support of Education

Accredited By
North Carolina Board of Nursing
National Accrediting Agency for Clinical Laboratory Sciences
American Medical Association
American Dental Association, Commission on Dental Accreditation

Asheville-Buncombe Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate degrees.

Catalog of Courses
Day and Evening College

Volume 35
1997-1998

COLLEGE PROGRAMS

Program Title	Degree/Diploma/Certificate	Schedule
Accounting	A.A.S. Degree	Day/Evening
Air Conditioning, Heating and Refrigeration Technology	A.A.S. Degree	Evening
	Diploma	Day/Evening
Associate Degree Nursing	A.A.S. Degree	Day
Automotive Systems Technology	A.A.S. Degree	Day
	Diploma	Evening
Basic Law Enforcement Training	Certificate	Day/Evening
Business Administration	A.A.S. Degree	Day/Evening
CAD Systems Management	A.A.S. Degree	Day/Evening
Carpentry	Diploma	Day/Evening
Civil Engineering Technology	A.A.S. Degree	Day/Evening
College Transfer:		
Associate in Arts	A.A. Degree	Day/Evening
Associate in Science	A.S. Degree	Day/Evening
Criminal JusticeTechnology	A.A.S. Degree	Day/Evening
Culinary Technology	A.A.S. Degree	Day
Dental Assisting	Diploma	Day
Dental Hygiene	A.A.S. Degree	Day
Early Childhood Associate	A.A.S. Degree/	Day
	Certificate	Day/Evening
Electrical/Electronics Technology	A.A.S. Degree	Evening
Electronic Servicing Technology	Diploma	Evening
Electronics Engineering Technology	A.A.S. Degree	Day/Evening
Emergency Medical Science	A.A.S. Degree	Day
General Occupational Technology	A.A.S. Degree	Day/Evening
Hotel and Restaurant Management	A.A.S. Degree	Day
Information Systems	A.A.S. Degree	Day/Evening
Machining Technology	A.A.S. Degree	Evening
	Diploma	Day/Evening
Marketing and Retailing	A.A.S. Degree	Day/Evening
Mechanical Engineering Technology	A.A.S. Degree	Day/Evening
Medical Laboratory Technology	A.A.S. Degree	Day
Medium/Heavy Duty Vehicles Systems Technology	Diploma	Day
Office Systems Technology	A.A.S. Degree	Day
	Diploma	Day/Evening
Operations Management	A.A.S. Degree	Day/Evening
Phlebotomy	Certificate	Day
Practical Nursing	Diploma	Day
Programming	A.A.S. Degree	Day/Evening
Radiography	A.A.S. Degree	Day
Real Estate	Certificate	Evening
Real Estate Appraisal	Certificate	Evening
Social Services	A.A.S. Degree	Day/Evening
Surveying Technology	A.A.S. Degree	Day/Evening
Tool, Die and Mold Making	A.A.S. Degree	Day/Evening
Welding Technology	Diploma	Day/Evening

DIRECTORY OF COLLEGE SERVICES AND OFFICES

Academic Programs	Vice President, Instructional Services Simpson Administration Building Extension 120
ADA Coordinator	Personnel Officer Azalea Building Extension 113
Admissions, Applications, Catalogs	Admissions Office Student Services Azalea Building Extension 149
Allied Health and Public Service Education	Dean Rhododendron Building Extension 250
Arts and Sciences	Dean Elm Building Extension 310
Books	Bookstore Oak Gym/Student Center Extension 200/208
Business and Hospitality Education	Dean Birch Building Extension 240
Business and Industry Services	Dean Hemlock Building Extension 345
Continuing Education and Off-Campus Programs	Associate Vice President Pines Building Extension 130
Counseling	Counselors Student Services Azalea Building Extension 142/146/206/434
Disabled Student Services	Coordinator of Special Needs, Student Services Azalea Building Extension 141
Emergencies	Security Office Extension 125
Engineering and Applied Technology	Dean Dogwood Building Extension 220
Financial Aid	Financial Aid Office Azalea Building Extension 160
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GED Test Scheduling	Basic Skills Office Pines Building Extension 132/GED/137

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Grade Changes	Class Instructor
Job Placement	ESC Representative Extension 171/172
News, Publications	Public Information Officer Simpson Administration Building Extension 117
Parking Permits	Accounting Clerk/Cashier Simpson Administration Building Extension 152
Payments, Student Accounts	Business Office Simpson Administration Building Extension 152/156/166
Student Academic Records, Transcripts, Registration, Drop/Add Classes	Student Records and Registration Student Services Azalea Building Extension 147/148
Student Activities and Intramurals	Director of Student Activities Oak Gym/Student Center Extension 203
Transfer Credits/Transcript Evaluation (Transfer to A-B Tech)	Coordinator of Academic Advising and Special Projects Student Services Azalea Building Extension 202
Transfer-to-Senior-College Information	Transfer Counselor Student Services Azalea Building Extension 146
Tutoring	Guided Studies Laurel Building Extension 314
Veterans	Veteran's Service Office Azalea Building Extension 206
Visiting the Campus	College Recruiter Student Services Azalea Building Extension 203

Address correspondence to the appropriate office in care of
Asheville-Buncombe Technical Community College
340 Victoria Road
Asheville, NC 28801
(704) 254-1921

www.asheville.cc.nc.us

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  * Business Administration 81
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  * Information Systems 86
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  * Operations Management 92
  * Programming 93

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Enrollment will determine offering or continuing a curriculum.
*Curricula offered during both day and evening hours.

COLLEGE CALENDAR 1997-1998

SUMMER SESSION - 1997 Transition from Quarter to Semester

Registration: Current Classified and Unclassified Students	May 19-23
Registration: New Students	May 26-June 2
Financial Aid Recipients Charge Tuition and Fees (9:00 a.m. - 3:00 p.m.)	May 30
New Student Orientation	June 2
Classes Begin	June 3
Last Day for Registration	June 9
Last Day to Apply for Graduation	June 9
Last Day to Drop for a Refund*	June 16
Last Day of Examinations	August 12
Graduation	August 16
Total Class Days	50
Holidays: Independence Day	July 4

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FALL SEMESTER - 1997

Registration: Current Classified and Unclassified Students	August 4-8
Registration: New Students	August 18-25
Financial Aid Recipients Charge Tuition and Fees (9:00 a.m. - 3:00 p.m.)	August 22
New Student Orientation	August 25
Classes Begin	August 26
Last Day for Registration	September 2
Last Day to Drop for a Refund*	September 17
Mini-mester	October 1-November 25
Fall Break	November 26-28
Last Day of Examinations	December 19
Total Class Days	80
Holidays: Labor Day	September 1
Thanksgiving	November 27-28
Christmas and New Year's Holidays	December 24-January 2

17 w

SPRING SEMESTER - 1998

Registration: Current Classified and Unclassified Students	December 8-12
Registration: New Students	December 15-19, January 5-7
Financial Aid Recipients Charge Tuition and Fees (9:00 a.m. - 3:00 p.m.)	January 6
New Student Orientation	January 7
Classes Begin	January 8
Last Day for Registration	January 14
Last Day to Apply for Graduation	January 14
Last Day to Drop for a Refund*	January 30
Mini-mester	February 9-April 3
Spring Break	April 10-17
Last Day of Examinations	May 8
Total Class Days	80
Holidays: Martin Luther King, Jr.	January 19
Good Friday	April 10
Easter Monday	April 13

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SUMMER SESSION - 1998

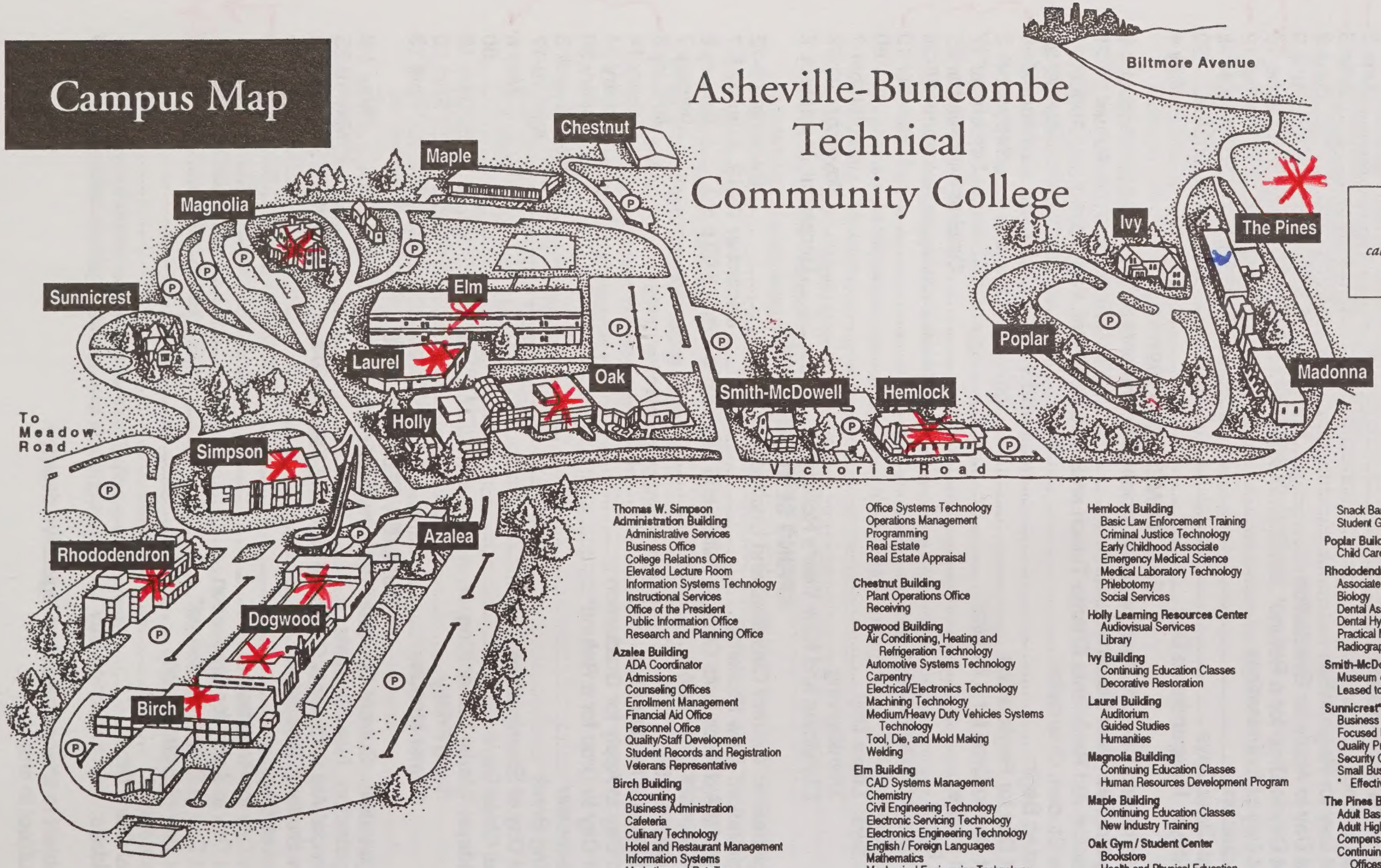
Registration: Current Classified and Unclassified Students	May 4-8
Registration: New Students	May 18-25
Financial Aid Recipients Charge Tuition and Fees (9:00 a.m. - 3:00 p.m.)	May 22
New Student Orientation	May 25
Classes Begin	May 26
Last Day for Registration	June 1
Last Day to Apply for Graduation	June 1
Last Day to Drop for a Refund*	June 8
Last Day of Examinations	August 4
Graduation **	August 7
Total Class Days	50
Holidays: Independence Day	July 3

3 wee
June 15

*Subject to change based on legislative decision.
**Subject to change.

Campus Map

Asheville-Buncombe Technical Community College



Campus Tours
To arrange a tour, call the College Recruiter, 254-1921, ext. 203

Ⓟ Designates Parking

Thomas W. Simpson Administration Building
- Administrative Services
- Business Office
- College Relations Office
- Elevated Lecture Room
- Information Systems Technology
- Instructional Services
- Office of the President
- Public Information Office
- Research and Planning Office

Azalea Building
- ADA Coordinator
- Admissions
- Counseling Offices
- Enrollment Management
- Financial Aid Office
- Personnel Office
- Quality/Staff Development
- Student Records and Registration
- Veterans Representative

Birch Building
- Accounting
- Business Administration
- Cafeteria
- Culinary Technology
- Hotel and Restaurant Management
- Information Systems
- Marketing and Retailing
- Mountain Tech Lodge
- Office Systems Technology
- Operations Management
- Programming
- Real Estate
- Real Estate Appraisal

Chestnut Building
- Plant Operations Office
- Receiving

Dogwood Building
- Air Conditioning, Heating and Refrigeration Technology
- Automotive Systems Technology
- Carpentry
- Electrical/Electronics Technology
- Machining Technology
- Medium/Heavy Duty Vehicles Systems Technology
- Tool, Die, and Mold Making
- Welding

Elm Building
- CAD Systems Management
- Chemistry
- Civil Engineering Technology
- Electronic Servicing Technology
- Electronics Engineering Technology
- English / Foreign Languages
- Mathematics
- Mechanical Engineering Technology
- Physics
- Surveying Technology

Hemlock Building
- Basic Law Enforcement Training
- Criminal Justice Technology
- Early Childhood Associate
- Emergency Medical Science
- Medical Laboratory Technology
- Phlebotomy
- Social Services

Holly Learning Resources Center
- Audiovisual Services
- Library

Ivy Building
- Continuing Education Classes
- Decorative Restoration

Laurel Building
- Auditorium
- Guided Studies
- Humanities

Magnolia Building
- Continuing Education Classes
- Human Resources Development Program

Maple Building
- Continuing Education Classes
- New Industry Training

Oak Gym / Student Center
- Bookstore
- Health and Physical Education
- Intramurals
- Job Placement Office
- Recruiter
- Snack Bar
- Student Government Association

Poplar Building
- Child Care Center

Rhododendron Building
- Associate Degree Nursing
- Biology
- Dental Assisting
- Dental Hygiene
- Practical Nursing
- Radiography

Smith-McDowell
- Museum of WNC History
- Leased to WNC Historical Association

Sunnicrest*
- Business and Industry Services
- Focused Industrial Training
- Quality Program
- Security Office
- Small Business Center
- * Effective August 1, 1997

The Pines Building
- Adult Basic Education (ABE)
- Adult High School
- Compensatory Education
- Continuing Education Administrative Offices
- Continuing Education Classes
- General Education Development (GED)

BUILDINGS LEGEND

MAIN CAMPUS

Thomas W. Simpson Administration Building

- Administrative Computer Services
- Administrative Services
- Business Office
- College Relations Office
- Elevated Lecture Room
- Instructional Services
- Office of the President
- Public Information Office
- Research and Planning Office

Azalea Building

- ADA Coordinator
- Admissions
- Counseling Offices
- Enrollment Management
- Financial Aid Office
- Personnel Office
- Quality/Staff Development
- Student Records and Registation
- Veterans Representative

Birch Building

- Accounting
- Business Administration
- Cafeteria
- Culinary Technology
- Hotel and Restaurant Management
- Information Systems
- Marketing and Retailing
- Mountain Tech Lodge
- Office Systems Technology
- Operations Management
- Programming
- Real Estate
- Real Estate Appraisal

Chestnut Maintenance Building

- Plant Operations Office
- Receiving

Dogwood Building

- Air Conditioning, Heating, and Refrigeration Technology
- Automotive Systems Technology
- Carpentry
- Electrical/Electronics Technology
- Machining Technology
- Medium/Heavy Duty Vehicles Systems Technology
- Tool, Die, and Mold Making
- Welding Technology

Elm Building

- CAD Systems Management
- Chemistry
- Civil Engineering Technology
- Electronic Servicing Technology
- Electronics Engineering Technology
- English/Foreign Languages
- Mathematics
- Mechanical Engineering Technology
- Physics
- Surveying Technology

Hemlock Building

- Basic Law Enforcement Training
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- Medical Laboratory Technology
- Phlebotomy
- Social Services

Holly Learning Resources Center

- Audiovisual Services
- Library

Ivy Building

- Continuing Education Classes
- Decorative Restoration

Laurel Building
- Auditorium
- Guided Studies
- Humanities

Madonna

Magnolia Building
- Continuing Education Classes
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Maple Building
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The Pines
- Adult Basic Education (ABE)
- Adult High School
- Compensatory Education
- Continuing Education Administrative Offices
- Continuing Education Classes
- General Education Development (GED)

Madison Campus

The Madison Campus of Asheville-Buncombe Technical Community College is located on the Marshall Bypass in Marshall, North Carolina. Both credit and continuing education classes are offered day and evening.

Liston B. Ramsey
- Administrative Offices
- Auditorium
- Classrooms
- Computer Lab
- Conference Room
- Shop

ORGANIZATION

History

Asheville-Buncombe Technical Community College has served as the community's premier technical educator for over thirty years. Originally funded by a bond election, the institution was established on September 1, 1959, and named the Asheville Industrial Education Center.

Following legislation creating the North Carolina System of Community Colleges that was enacted in 1963 by the General Assembly, the name was changed on January 27, 1964, to Asheville-Buncombe Technical Institute. This legislation enabled the College to confer the Associate in Applied Science degree for the first time at graduation ceremonies in August, 1964.

The Board of Trustees approved a third name change to Asheville-Buncombe Technical College on August 6, 1979.

A final name change occurred on November 2, 1987, when the Board of Trustees approved Asheville-Buncombe Technical Community College, an action which became official when endorsed by the Buncombe County Commissioners on November 3, 1987.

In October 1988 the College received approval to offer Associate degree programs and in September 1989 enrolled its first class for the Associate in Science degree. The Associate in Arts degree was offered for the first time during Summer Quarter 1990-91.

On January 18, 1990, A-B Tech officially opened a satellite campus in Madison County. The College had served the county out of temporary quarters at the Marshall Elementary School since December 12, 1984.

In the early years, the College administered the operation of four units located throughout western North Carolina. These units have gained independent status and are now fully accredited community colleges.

Administration

The College was initially administered by the Asheville City School Board of Education. Following the establishment of the North Carolina System of Community Colleges, control passed to an independent board of trustees.

From the beginning, prominent Asheville and Buncombe County business and community leaders have helped to guide the College. In addition, each department has an advisory committee made up of local practitioners. Several hundred local citizens provide guidance for the educational programs of the College.

Curricula

The first program offered by the College was Practical Nursing. Electronics Engineering Technology and the Machinist programs were started in 1960. These three curricula are still offered along with many other career and college transfer programs.

The College offers the Associate in Arts, the Associate in Science, and the Associate in Applied Science degrees, diplomas, and certificates.

The Associate in Arts and Associate in Science degree programs are offered in the Division of Arts and Sciences. All career curricula and courses are offered through three divisions: Allied Health and Public Service Education, Business and Hospitality Education, and Engineering and Applied Technology. In addition, noncredit academic, avocational, practical skills, and occupational classes and activities are offered through the Continuing Education Division.

Continuing Education courses are generally offered, with sufficient enrollment, on demand. Curriculum courses are usually offered on planned schedules in both the day and evening/weekend programs. Many curriculum classes are also offered in *clusters* for *unclassified* students. Some Continuing Education courses--including Adult Basic Education, Human Resources Development, New and Expanding Industry Training, Small Business Center, Total Quality Management, and Focused Industrial Training activities--are ongoing or are repeated on a regular basis.

Both curriculum and Continuing Education programs are supported through the activities of the GED Testing program, Guided Studies, and the Learning Resources Center.

Classes meet on campus and at various off-campus sites. Course requirements are the same without regard to meeting times or locations.

Campus Facilities

On March 15, 1961, the Industrial Education Center moved into two newly constructed buildings off Victoria Road. Over the years the Board of Trustees has acquired land that today totals 144 acres.

Twenty-one buildings house academic programs and campus services. Included in this total is the Smith-McDowell House, the oldest brick house in Buncombe County, leased to the Western North Carolina Historical Association.

On January 18, 1990, the College established a campus in Madison County. The satellite operation provides adult education, upgrading, and college credit courses for the people of Madison County.

Over the years a combination of special funding has provided for campus expansion. Since 1985 the North Carolina General Assembly has approved $5 million in special legislation for campus construction.

Since 1987, Buncombe County voters have approved $13.5 million in bonds to be used for campus additions and renovations. In 1993, a statewide bond referendum gave A-B Tech another $5 million for capital projects.

Buncombe County Commissioners purchased for A-B Tech property belonging to St. Genevieve Gibbons Hall, a private school that merged with Asheville Country Day School to form the Carolina Day School. The Board of Trustees acquired the title to these 12.77 acres and four buildings on September 23, 1987. Additionally, in 1990 the Commissioners purchased 16.75 acres contiguous to the west boundaries of the campus. This purchase included Sunnicrest the only remaining lodge constructed by George Vanderbilt.

On October 21, 1987, A-B Tech in cooperation with Buncombe Child Development opened a Child Care Center, which offers day service to students and faculty.

Current Status

Asheville-Buncombe Technical Community College, with strong local support, has grown in facilities and land acquisition, in enrollment, in curricula, and in expanded services to the community. Today the College has the largest total headcount enrollment of any institution of higher education in western North Carolina.

Location

The main campus is located off Victoria Road in Asheville, North Carolina, a city repeatedly named as one of the most livable towns in America.

Situated near major interstates and on local bus routes, the College is convenient to the citizens it serves. Ample parking close to class buildings is provided free on campus.

The Madison Campus is located in Marshall, North Carolina.

COLLEGE MISSION STATEMENT

Asheville-Buncombe Technical Community College, established in 1959, is a public, two-year college committed to preparing students for employment, further education, and development of responsible attitudes needed in modern society. The College's commitment is to provide quality educational opportunities that encourage students to attain their individual, academic and career goals. The College strives to fulfill this commitment through continuous improvement of programs, employees, and support services.

As a member of the North Carolina Community College system, the College is dedicated to serving western North Carolina, primarily Buncombe and Madison counties, in the role of a comprehensive community college where the doors are open to all adults who desire to continue their education. Programs and services are available to meet students at their ability levels and to assist them in attaining realistic educational goals.

In support of these commitments, Asheville-Buncombe Technical Community College offers:

- courses to provide marketable skills to prepare students for employment in business, the technologies, the skilled trades, and health-related careers.
- the first two years of study for those seeking transfer to a four-year college or university.
- opportunities for life-long learning to enhance personal, social, cultural, and recreational life.
- training in basic skills to improve literacy and general education to assist students in obtaining their high school credentials.
- programs for students who need to develop basic academic skills for post-secondary study.
- upgrading of skills for those currently employed in fields experiencing advances in technology.
- counseling services for personal, academic, and career guidance; and other support services such as financial aid, on-campus child care, tutoring, and reasonable accommodations for students with special physical and learning needs.
- upgrading human relations skills at all organizational levels.
- assistance with economic development of the community, region, and state directly and indirectly through the education and training of current and potential employees, and through technical assistance to individuals, businesses, industries, and public and private service agencies.

ABTCC and its Board of Trustees, through its administrators, further support its mission by employing and developing qualified instructional and support staff, acquiring and maintaining the resources necessary for its programs, ensuring financial accountability, providing public information, assuring equality of access without discrimination, involving college personnel and students in decision-making processes, and by coordinating its programs and offerings with other educational institutions.

College development is attained through a dynamic planning process based on sound investigation and research by involved administration, faculty, staff and students.

COLLEGE PHILOSOPHY

Asheville-Buncombe Technical Community College exists to serve the students. The College's commitment includes recognizing the individual worth of all students, accepting them at the level we find them, and assisting them to attain realistic objectives. The College subscribes to the belief that those who are affected by decisions should be involved in the process itself and consequently strives to involve students, faculty, staff, and community in the formulation of policies and practices.

In order to assure everyone an equal opportunity to learn and improve skills and to develop social abilities and responsible attitudes, our doors are open to anyone of appropriate age who can profit from our programs. Inherently involved in the concept of the open door policy and the formulation of realistic goals are the processes of guidance and counseling. The College believes that adequate guidance and counseling services should be readily available to every applicant and should continue throughout the student's educational career.

Asheville-Buncombe Technical Community College serves an essential role in regional economic development. The College is concerned with providing an educated citizenry to maximize economic growth. Accordingly, the College strives to maintain flexible programs of instruction that are continuously responsive to the needs of students as well as the changing needs of present and prospective employers.

The College promotes excellence in teaching by supporting creative, critical, and independent inquiry; high standards for knowledge acquisition and the achievement of intellectual understanding; freedom from restraints due to ignorance, prejudice and intolerance; and an understanding of the relationships of the individual to society. The implications of academic freedom include teaching and publishing, unhindered by others.

We are committed to the maximum utilization of our resources and the greatest possible efficiency in their use. To this end, many curriculum and special courses are offered during evening hours, or by special arrangement. We also believe that self-evaluation and dynamic program review provide the most effective base for responsible decision-making. Periodic reviews are built into our programs at every level necessary to provide an education that is flexible, progressive, and sensitive to the changing needs of our clientele.

DIVISIONAL OBJECTIVES

Allied Health And Public Service

The Allied Health and Public Service Education Division provides students with opportunities at the postsecondary level to acquire knowledge, skills, and attitudes that will enable them to become effective and safe members of health care and public service teams.

Arts And Sciences

A primary objective of the Division of Arts and Sciences is to provide rigorous academic instruction through the Associate in Arts and Associate in Science degree programs to enable students to transfer to senior institutions with junior status. The Division provides general education support for all other college certificate, diploma, and degree programs. Students may receive a General Occupational Technology Associate in Applied Science degree through this division. An instructional objective is to provide students with the necessary skills in critical thinking, oral and written communication, the use of technology, and collaborative learning. Community interests are served through a wide variety of Arts and Sciences courses.

Business And Hospitality Education

The Business and Hospitality Education Division provides technical postsecondary education for students of business programs, computer technologies, and culinary/hospitality education. Programs of study emphasize critical skill development for successfull entry into the job market.

Continuing Education

Continuing Education provides vocational education opportunities for the unemployed, upgrading courses for those already employed, adult basic education for those seeking a higher educational level, and certain avocational courses for individual enrichment.

Engineering And Applied Technology

The Engineering and Applied Technology Division offers a variety of Associate in Applied Science degree programs in engineering technologies and diploma programs in applied technologies. Degree-level students are provided an appropriate blend of engineering, scientific, and mathematical theories with applications. Diploma-level students are provided training that is closely related to the industrial work environments. Appropriate related and general education courses are provided in support of these programs.

Learning Resources Center

The mission of the Learning Resources Center is to support the mission of the College and to enhance the teaching/learning process through provision of adequate, up-to-date resource collections in formats consistent with prevailing technologies; provision of access to the collections of other libraries; promotion of user-directed electronic database searching; provision of instruction in the use of resources to enable users to function in an information-driven society; and promotion of life-long learning opportunities.

Objectives

1. To assume an integral support role in fulfilling the mission of the College.
2. To provide library services designed to support and enrich College instructional programs.
3. To provide audiovisual services to the faculty, staff, and students of the College. These services will include production, materials, and equipment to support the instructional program and related activities. Telecommunications and satellite reception will be provided for seminars and conferences.
4. To provide a learning environment in which the students can be free to explore interests, with a learning pace and manner specifically tailored to individual needs.
5. To provide for the special academic needs of disabled students.
6. To support community needs for instructional and resource materials and services consistent with the mission of the College.

NONDISCRIMINATION POLICY

Asheville-Buncombe Technical Community College does not discriminate on the basis of sex, race, color, national origin, age, disability, or religion, in the educational programs or activities which it operates. The College is required by Title IX of the Education Amendment of 1972 not to discriminate on the basis of sex, and under other Federal legislation the College will not discriminate on the basis of race, color, national origin, age, disability, or religion. The requirement not to discriminate in education programs and activities extends to employment in the College and to admission into its programs. Inquiries or complaints concerning the application of Title IX, the ADA, and other Federal nondiscrimination legislation to Asheville-Buncombe Technical Community College should be referred to:

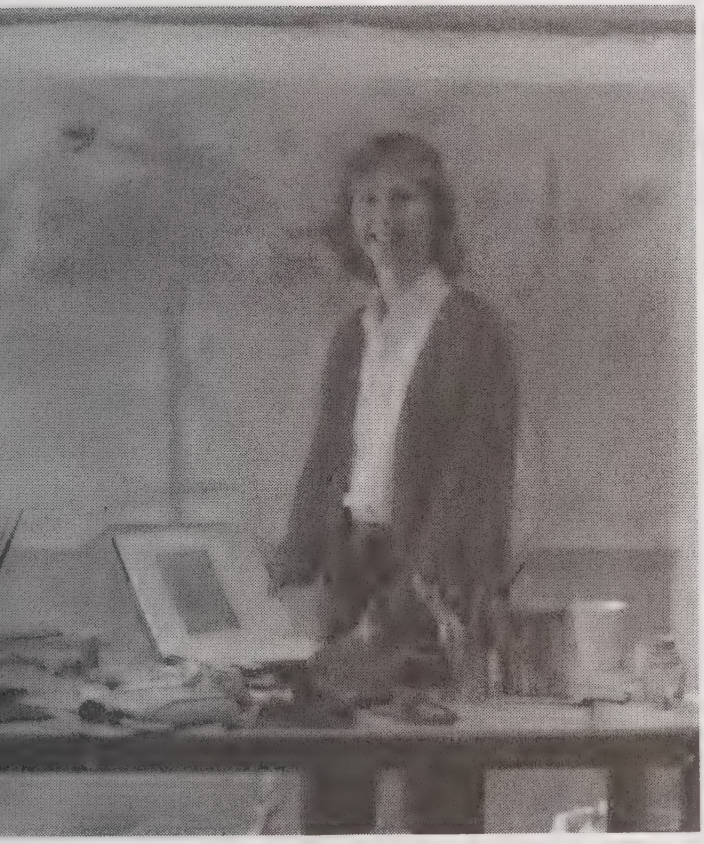
Personnel Officer/ADA Coordinator
Asheville-Buncombe Technical Community College
340 Victoria Road
Asheville, North Carolina 28801
Azalea Building
Telephone: (704) 254-1921
TDD: 254-1921, ext. 444
or
Depress space bar several times for operator assistance
Internet: www.asheville.cc.nc.us

INDIVIDUALS WITH DISABILITIES

Individuals with disabilities (as defined in the Americans with Disabilities Act of 1990 ("ADA") wishing to make a request for reasonable accommodation, auxiliary communication aids or services, materials in alternative accessible formats, or who wish to file a complaint of alleged discrimination on the basis of disability should contact the ADA Coordinator listed above.

COMMUNICABLE DISEASE POLICY

It is the policy of Asheville-Buncombe Technical Community College not to discriminate against any applicant, employee or student who has or is suspected of having a communicable disease. As long as an employee is able to satisfactorily perform the essential functions of the job, and there is no medical evidence indicating that the employee's or student's condition is a threat to the health or safety of the individual, coworkers, students or the public; an employee shall not be denied continued employment, nor shall an applicant be denied employment, nor shall a student be denied admission to the campus or classes based on whether or not he/she is suspected of having a communicable disease. The College will consider the educational or employment status of individuals with a communicable disease or suspected of a communicable disease on an individual, case-by-case basis following procedures outlined by the President.



Continuing Education

Asheville-Buncombe Techni
Community College

Continuing Education

The Continuing Education Division offers classes and training to support the economic development of the community and its citizens. Needs for higher academic education, employment skills, basic educational skills, job training and retraining, personal growth and development, and community and economic development are continually identified through a variety of assessments.

Different learning approaches to meet community needs involve traditional classroom instruction, individualized instruction, computer-assisted learning, community-based learning centers, on-site classes and training for business and industry, and apprenticeships. Also available is assessment, consultation, and technical assistance for individuals, businesses, industries, and public and private sector agencies.

The educational offerings of the Continuing Education Division are built on the concept of lifelong learning. Classes and training are provided in different formats, at a variety of times, and at locations where the needs of students can most conveniently be met.

Some of the Continuing and Off-Campus Education programs are coordinated with the Job Training Partnership Act (JTPA) or the WorkFirst programs of other agencies. These and other similar programs represent joint efforts to bring education and training services to the community.

Training and course work may carry Continuing Education Unit (CEU) credit; these unit credits are not a part of college curriculum diploma or degree programs. Curriculum courses that carry full college diploma and degree credits are offered at off-campus sites through the coordinated efforts of Continuing Education Program directors and the deans and department chairs of the four curriculum academic divisions of the College.

The Continuing Education Division provides programs for adults age eighteen or older. Minors may enroll for some classes with special permission. For some programs, the enrollment of minors cannot displace an adult.

Costs

Costs for Continuing Education classes vary, but there is usually a nominal registration fee. Fees may also be charged for books, materials, and supplies. For some classes, North Carolina residents age sixty-five or older are exempted from registration fees. There are no registration fees for basic skills classes.

Course Repetition

There is a limit on the number of times a student may enroll in a particular continuing education class. The Continuing Education Course Repetition policy guides enrollment in selected types of classes.

Occupational extension courses may not be taken more than twice within a five-year period without the student paying the full cost of the course as determined by the College. Students may repeat occupational extension courses more than once if the repetitions are required for certification, licensure, or recertification.

A course other than occupational extension may not be taken for more than two (2) consecutive terms without a break of at least one term. Students who are enrolled in Adult Basic Education (ABE), General Education Development (GED), or Compensatory Education classes may continue in them as long as reasonable educational and/or social progress is being made according to the goals of the program. Students in Compensatory Education classes will be reviewed after no more than two years to determine whether they will continue in the program.

The College reserves the right to modify this policy in general or relative to a given course as necessary to meet the needs of the College and its students.

Services

Continuing Education needs are addressed in two domains: (1) Business and Industry Services and (2) Community Education Services.

Business and Industry Services

The Center for Business and Industry provides programs and services to address the training and development needs that impact the local and regional economy. The Center ties the College to the associated efforts of local, regional, and state agencies for economic development.

Focused Industrial Training. **Focused Industrial Training (FIT)** is designed to address the special training needs of existing North Carolina industry. Serving primarily the manufacturing population, FIT uses individual needs assessment and consultations to target and upgrade workers' skills needed to keep up with new work methods and technology. FIT job training can be designed for skilled and semiskilled workers, lead supervisors, and team leaders. The targeted occupations are material handlers, assembly technicians, welders, machinists, maintenance mechanics, metal workers, production line workers, and woodworking machine operators. Technical assistance, which covers any subject taught at A-B Tech, is also available to manufacturing companies through FIT.

New and Expanding Industry. **New and Expanding Industry** needs are met through customized training programs designed especially for prospective employees and funded at no cost to the employer. For some new industries, the Maple Building Skills Center is available for on-campus training.

Occupational Programs. **Occupational Programs** provide education and training for individuals to prepare for new or different employment and to upgrade the skills of individuals in their current employment. These opportunities are available through single courses or a series of courses specifically designed for an occupation. A significant number of these courses are offered to meet licensure or certification requirements for employment in careers such as Fire and Fire Rescue, Emergency Services, Criminal Justice/Law Enforcement, Certified Nursing Assistant (CNA), Insurance, Real Estate, and Dental Radiography. Other offerings include programs for the following occupational areas: hospitality, medical, computer applications, business management, public education, electrical, construction, and inspection.

Decorative Painting Techniques & Restoration. Students in the **Decorative Restoration** Program train in all aspects of surface treatments and decoration. The content of the program deals with traditional finishes in historic buildings as well as new work and the development of individual styles and techniques. Students learn the physical and chemical nature of building materials, methods of stenciling, gilding, ornamental plaster work, marbling, woodgraining, wall glazing, paperhanging and the preparation of old and new surfaces to receive decorative treatments. Qualifying graduates will receive the "City and Guilds of London" certificate for Decorative Painting and Restoration. Related job opportunities include residential and commercial decorating, church restoration, picture frame and architectural gilding. There are also opportunities for international travel. This forty-four week program starts in January and ends in December. The foundation level covers tools and equipment, materials, drawings and geometric shapes, calculations, and surface preparation. The advanced level covers specifications, site organization, decorative treatments, and color.

Small Business Center. **The Small Business Center** provides consulting and advising services to present and potential small business owners. Additionally, through very practical, short-term seminars, the Center addresses the continuing needs of small business clients for updating information, refining entrepreneurial skills, and enhancing techniques to improve the profit advantage in risk taking. The seminars frequently address the critical areas of capital formation and prevention of business failures. The Small Business Center works cooperatively with local chambers of commerce, the Active Corps of Executives (ACE), the Service Corps of Retired Executives (SCORE), the Center for Improving Mountain Living's small business counseling services, and the U.S. Small Business Administration.

Quality Program. **The Quality Program** provides training and technical assistance in total quality practices and ISO 9000 for businesses, industries, and public and private sector agencies. Programs include process improvement, team building, quality skills, statistical process control, facilitator development, self-assessments, and all phases of ISO 9000 implementation. The program also partners with the American Society for Quality Control and the North Carolina Quality Leadership Foundation to provide quality course offerings. Additionally, a resource center for quality information and a lending library make specialized books and videos available.

Community Education Services

Educational opportunities are provided directly to the citizens of the community through the programs of Community Education Services.

Basic Skills. **The Basic Skills Programs** provide opportunities for upgrading reading, mathematics, English, and life skills. Assessment is a basic part of all of these programs. The Adult Basic Education (ABE) Program supports academic remediation in reading comprehension, mathematics, and language skills and provides pre-GED instruction.

One of two Adult High School Programs can lead the student to the equivalent of high school completion: (1) **The General Education Development (GED)** Program offers instruction in five subject areas in preparation for taking the high school diploma equivalency (GED) test and (2) The **Adult High School Diploma Program** provides instruction designed to qualify individuals for an adult high school diploma, awarded jointly by a local board of education and the College after the student successfully completes twenty (20) units of credit and the North Carolina Competency Tests. Instruction for Basic Skills Programs is available on campus and at community learning centers or workplace sites when there is sufficient demand.

GED Testing. At **The GED Testing Center**, students can take the tests of General Educational Development (GED). The tests cover:

- Writing Skills
- Mathematics
- Social Studies
- Science, and
- Interpreting Literature and the Arts

With passing scores, the student earns a High School Diploma Equivalency (GED) which is awarded by the North Carolina Community College System. This certificate is generally accepted on an equal basis with a traditional high school diploma for employment, promotion, or further education.

To be eligible for testing, an applicant:

- Must be at least 18 years old, except that 16- and 17-year olds may test with special permission,
- Must be a current North Carolina resident,
- Must be certified to test through the GED Preparation Program (254-1921, extension GED), and
- Must pay the testing fees ($7.50 for the initial testing and $2.50 for retesting in Writing Skills) at the Business Office in the Simpson Administration Building before arriving at the GED Testing Center.

English as a Second Language. **English as a Second Language (ESL)** is intended to improve the English reading, speaking, and writing skills of nonnative students. American culture, history, and life skills are also taught.

Compensatory Education. **The Compensatory Education Program** is an academic program specifically for adults with mental retardation. The program comprises lessons in community living, consumer education, health, language, mathematics, social science, and vocational education. Emphasis is placed on helping each student become as independent as possible, primarily by improving social, survival, and independent-living skills.

Community Services. **The Community Services Program** provides courses, seminars, and activities that contribute to the community's overall cultural, civic, and intellectual growth and assists adults in the development of new skills or the upgrading of existing avocational, academic, and practical skills. Among the avocational component courses are calligraphy, personal photography, pottery, and art. The academic component includes courses such as languages, art appreciation, consumer economics, investments, and retirement planning. Catering, practical horticulture, woodworking, chair caning, upholstery, and small engine repair are typical class offerings in the practical skills component of the program.

Human Resources Development. **The Human Resources Development (HRD) Program** provides short-term prevocational training and counseling designed to help unemployed and underemployed adults successfully enter the work force and additional education. Instruction focuses on the following topics:

Job seeking and job-keeping skills
Vocational assessment and career exploration
Problem-solving, critical thinking, and communication skills
Self esteem and confidence
Academic preparation
Goal setting
Teamwork and workplace interpersonal skills

The internationally known Decorative Restoration program may qualify students for certification with "City and Guilds of London."

Educational Support Services

Asheville-Buncombe Technica
Community College

GUIDED STUDIES

This department provides postsecondary students with instruction in basic math, English, and reading in structured and unstructured settings.

A tutorial component serves curriculum students needing assistance outside of class in math or English related subjects. Tutoring is accomplished through individual sessions, small groups, and computer-assisted instruction.

As the point of entry for learners needing academic development, Guided Studies is sensitive to the needs of students making a transition to a college environment. Instructors design course work to accommodate first-time college students, those returning to school after an absence, and those with disabilities. The objective of this department is to enable students to develop the skills and behaviors that will lead to successful achievement in A-B Tech's curricula. The minimum passing grade is "C." The grade of "D" will not be used for Guided Studies courses.

Guided Studies courses are listed in the class schedules. Current lab schedules may be obtained from Guided Studies personnel.

LEARNING RESOURCES CENTER

The Learning Resources Center (LRC) includes the Library and Audiovisual Services. Together, they provide information, guidance, and instruction in a wide range of resource material. In addition, the LRC provides a variety of A-V equipment to supplement classroom, laboratory, and shop experiences.

The Library

The library makes available all of the LRC's collection of materials, both print and nonprint formats. The collection is well organized for easy use. Automated catalogs, circulation, electronic indexes, and reference services provide the user with state-of-the-art access to research and recreational materials. The primary objectives of the library are to provide information services and assist the user with utilization of the collection in an attractive, well-equipped facility that is open to the college and the community.

HOURS: Monday-Thursday 8:00 a.m.-9:00 p.m. Closed Weekends
Friday 8:00 a.m.-4:30 p.m.

Audio-Visual Services

Audiovisual services are available to the College faculty, staff, and students. These services include production, materials, and equipment to support the instructional program and related activities, including satellite reception for seminars and teleconferences. The LRC maintains an inventory of audiovisual equipment to support College sponsored activities, along with an extensive collection of audiovisual materials.

Computer Services

A staffed computer lab is available for student use.

GENERAL ADMISSION REQUIREMENTS AND PROCEDURES

Asheville-Buncombe Technical Community College has an OPEN DOOR admission policy. High school graduation or equivalence is normally required for admission to any curriculum; however, there are also programs for nongraduates 18 years of age or older. The College begins accepting applications on September 15 for the following school year. Early application is advised for many programs. Admission to some curricula is competitive among qualified applicants according to established criteria.

Individually selected classes may be taken by Unclassified Students providing the prerequisites have been met. After accumulating 30 hours, Unclassified Students must see a counselor in Student Services in order to confirm further educational plans.

Placement into a specific course of study is based upon standards that will help to assure the applicant's success in that course of study. Those who do not yet possess the background required by the course of study of their choice may be enrolled in developmental courses designed to provide this background.

Educational background, interest, motivation, experience, and aptitude will be considered when an application is submitted to the College.

Persons wishing to enroll in a curriculum program at the College must complete the entire application process and meet requirements as follows:

1. Submit an application form.
2. Obtain transcripts of credits from all secondary and postsecondary schools attended. Records should show that the student is a high school graduate or has a state approved equivalent education.
3. Complete the battery of placement tests administered by the College. In the case of Allied Health programs, the placement tests are used to determine admissibility. Student suitability for admission to individual programs will be determined by scores on the tests and specific program requirements. (See programs for details.) Requests for reasonable accommodations or test exemption by transfer credit will be reviewed individually. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Students with Special Needs.
4. Have a personal interview with the Student Services staff.
5. A complete physical examination may be required, but only after the student is admitted.

Upon completion of this procedure, the student will be accepted unconditionally or provisionally into the program. Provisional acceptance indicates that developmental classes are necessary; this status changes to unconditional acceptance once the developmental classes are completed.

Counseling And Testing

Generally, testing will be completed prior to acceptance and registration. A counselor will interpret test scores and will advise students concerning course selections. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Students with Special Needs.

Students are encouraged to use counseling services at any time. The Counseling Department will work at all times with individuals to keep them informed of the progress they are making and to support students as they work toward their educational goals. Career exploration and development services are available through the Counseling Center. Personal counseling and referral to community services are available as needed. Many reference materials and computerized programs are available to students through counseling services.

Foreign Applicants

Proficiency in the English language and satisfactory academic records are important factors in the admission decision for all applicants from outside the United States. Foreign students must have graduated from a secondary school that is equivalent to secondary schools in the United States. Furthermore, a score of 550 on the Test of English as a Foreign Language (TOEFL) and the College placement tests are required of all foreign applicants. Students should contact a university in their native land for information about the Test of English as a Foreign Language. Foreign applicants should write to the Admissions Office of Asheville-Buncombe Technical Community College for additional information.

Academic Advising

In order to ensure that every student receives quality academic advising, Asheville-Buncombe Technical Community College has established an academic advising system. Students who are admitted to a curriculum are advised by a faculty member from that curriculum. Unclassified students are advised by the counselors in Student Services. Counselors initially determine the provisional courses for students based upon the results of placement testing. Faculty advisors determine the major area courses to be taken by provisional students. In all instances, a student's registration form must be signed by an appropriate advisor indicating that the schedule meets appropriate academic needs. No student will be allowed to register without an advisor's signature.

Provisional Student Status

Provisional status accommodates those students who can benefit from the academic programs offered by the College but require additional developmental coursework to be successful in their chosen program. Any student seeking a diploma, degree, or certificate in a noncompetitive program of study may be eligible for provisional student status.

The determination of provisional status shall be dependent upon the results of testing and the professional judgment of the Student Services counselor to whom the student is assigned. The counselor will assist the student in developing a Plan of Individual Education (PIE) tailored to meet the student's academic needs. The PIE will document the developmental coursework required of the student and any additional courses determined by the counselor. A copy of the PIE will be filed in the student's permanent record as well as with the academic advisor.

Provisional students are generally permitted to register concurrently for developmental courses and required courses in their program of study as long as they meet the prerequisites; however, it is recommended that the course schedule for any academic term not exceed 15 credit hours. Developmental courses must be taken beginning with the student's first semester of enrollment and all such coursework must be completed as outlined by the student's academic advisor.

For more information about provisional student status, students are encouraged to contact Student Services.

Transfer Credit

(Transcript Evaluation)

Credit From Other Institutions. Asheville-Buncombe Technical Community College will accept credit for parallel work completed in other postsecondary institutions accredited by a regional accrediting agency. Applicants who seek admission with advanced standing should make regular application and obtain from the Admissions Office a Request for Transfer Credit form for the evaluation of all postsecondary work. Please note: Transcripts will not be evaluated until this form has been completed. No credit will be granted for work below a "C". Transfer credit will be awarded for course work without grades or quality points. Proficiency credits from other institutions will not be accepted. At least half of the credit hours in a program of study must be received by taking courses and/or proficiency examinations at A-B Tech. If any course is taken for credit after transfer credit has been awarded, and a grade of A, B, C, D, or F is earned, it will replace the transfer credit. A student who must repeat a course may take it at another institution and transfer it to ABTCC according to the guidelines above. Transfer credit may be awarded for appropriate military courses. If a student submits a transcript from a foreign university, it will be the student's responsibility to provide accurate translations of (a) the transcript, (b) the courses description, and (c) the grading system. Credits will be evaluated in the context of the current catalog for the desired program of study.

Internal Transfer Of Credit. Students who declare a program, change programs, or graduate and return will have their former ABTCC work evaluated, if a Request for Transfer Credit form is completed. Credits will be evaluated in the context of the current catalog for the desired program of study.

1. Nongraduates returning to continue their program of study will not have their transcripts evaluated.
2. All courses applicable to the requirements of the new program, according to the current catalog, will be transferred or carried forward with existing grades.
3. The initial program grade point average will be determined by the courses and corresponding grades applied toward the current program.
4. This process will be completed during the first semester of reenrollment.
5. Exceptions to any of the above procedures must have the approval of the Vice President, Instructional Services.

Academic Fresh Start. Any returning student who has not attended A-B Tech for three years and upon re-enrolling maintains a 2.00 GPA for a minimum of 12 semester hours may petition to have grades on all prior course work more than 3 years old with a grade less than a C excluded in calculating the cumulative GPA. Grades below C disregarded in calculating the GPA will not count toward graduation but will remain on the transcript. The student should complete an application for Academic Fresh Start (obtained in the Office of Student Records and Registration), after the end of the semester in which he/she has completed the 12 semester hours required. A student who plans to transfer to another college should contact that institution to determine the impact of Academic Fresh Start on transfer.

Transfer Of Credit To Other Institutions. Asheville-Buncombe Technical Community College facilitates the transfer of credit to other institutions. The Associate in Arts and Associate in Science programs are designed to transfer to senior institutions at or near the junior level. Associate in Applied Science graduates have the option of entering a career, continuing their education at a senior institution, or doing both. We are proud of the fact that our graduates have a marketable job skill after two years of study and can also complete a four-year degree after two more years of academic work.

Students who attend most senior institutions do not declare a major until their junior year. Our programs are such that those students who earn a baccalaureate degree pursue it in an inverted pattern. The majority of the student's academic major is earned at A-B Tech in the first two years of study. As junior level students at the senior institution, they take general university requirements and may take more advanced courses relating to their major.

Parallel work, including single courses, completed at A-B Tech will transfer to other institutions in the North Carolina Community College System and to most senior institutions in the state. Most public and private four-year institutions in North Carolina, and many that are out of state, regularly accept credits from A-B Tech and generally enroll the graduates at approximately the junior level. The details of these affiliations are available from the transfer counselor in the Student Services office and the individual senior institutions.

A-B Tech strongly encourages its graduates to continue their formal educations after completion of their A-B Tech programs. It is important that graduates recognize the need to continue their educations throughout life to prepare for new and changing careers.

Credit By Examination

(Proficiency Examination)

Students who can provide tangible evidence of preparation to challenge a course, such as a transcript of similar college level credits, record of military study, certification or license, standardized test scores including CLEP, or written statements from employers regarding training or directly related work experience indicating that they may be proficient in a subject, may request credit by examination. A written request must be made to the proper Department Chairperson on a form obtained from Student Records and Registration. This test must be administered immediately after the 30 percent point in the semester.

Examinations are comprehensive and must be approved by the supervisor of the instructor administering the exam. The examination may be oral, performance, written, or a combination of these methods. To receive credit by examination, the score must be above average (B). The decision of the examining instructor is final. No quality points are awarded for credit by examination.

No student may request a second test for Credit by Examination in the same course or request Credit by Examination in a course after receiving any recorded grade for that course. Exceptions must have approval of the Vice President for Instruction.

Because of specific requirements, credit for certain courses may not be received through Credit by Examination. The courses which may not be challenged by examination are marked with an asterisk in the course description section of the catalog. Most institutions will not accept proficiency credits for transfer.

The following procedure must be used by students who request Credit by

Examination:

1. Enroll as a credit student in the course to be challenged and pay tuition if enrolled on part-time basis. There is no extra charge for full-time students.
2. Present evidence of proficiency, complete the written request form, and have the request approved within the first ten (10) days of the semester.
3. Remain enrolled and attend class until the examination is administered. During this period, students who have written approval for the exam may attend class without purchasing textbooks and materials. If books are purchased and returned for refund, they must be in new condition.
4. Students who are very confident of passing the exam may choose to begin with a course overload.
5. Students who perform on the exam at a level sufficient to get credit may leave the course and have an indication of Proficiency Credit by Examination (P) posted to their record for the course. Receiving proficiency credit does not entitle the student to a tuition refund.
6. Students who do not receive credit by examination are encouraged to purchase textbooks and materials and remain in the class to earn credit at the end of the semester.
7. Students who receive financial assistance of any type are required to inform the director of their assistance program that they are seeking proficiency credit. Assistance may be reduced and reimbursement will be required if the course load is reduced by receiving credit by examination. Students may choose to overload in this case.

Any exceptions to these procedures must have prior written approval by the Vice President for Instruction and the appropriate Division Dean and Department Chairperson.

Credit- AP, CLEP, RAVE

College credit may be awarded if appropriate conditions are met by Advanced Placement (AP) courses, College Level Examination Program (CLEP) test scores, or Regional Articulation in Vocational Education (RAVE) courses.

Auditing Courses

Students wishing to audit courses must register through regular registration procedures and pay standard tuition and fees. Students who register to take a course for credit and then choose to audit the course must do so within the first fifteen days of the term with approval of the instructor and by applying through Student Records and Registration for audit status. A student may change from audit to credit status through Student Records and Registration only during the first fifteen days of the term. Audit work does not receive credit and cannot be used toward diploma or degree requirements. All prerequisites must be met before a course can be audited. Physical Education classes may not be audited.

Balancing Class Size

Each student is assigned a sequential number for each curriculum class by the computer as fees are paid. This number determines position in the class should the class need to be split. The position determines the priority of the student to remain in the class. The College reserves the right to split classes and assign students to alternate sections whenever necessary to balance class size.

Curriculum Course Repetition

Students who need a course to graduate may take the course as many times as necessary to pass it, providing space is available. Any course that has been passed or audited may not be taken for credit or audited more than twice per academic year subject to space being available after preregistration. The twice-per-year regulation also applies to single or elective courses that are not required for graduation. Physical education courses may not be audited. No single physical education course may be attempted more than twice.

Course Substitutions

Course substitutions may be made according to the approved course equivalency list. The course grade will be the grade earned in the substitute course(s). Exceptions must be approved by the Vice President of Instructional Services.

TUITION AND EXPENSES

North Carolina Residency

In order to qualify for the resident tuition rate, North Carolina law (G.S. 116-143.1) requires that a legal resident must have maintained domicile in North Carolina for at least the twelve months immediately prior to classification as a resident for tuition purposes.

One must also have accomplished many of the things normally done by one who intends to reside in a state permanently. Examples of these actions are being employed, paying taxes, having a current North Carolina driver's license, voting in the state, belonging to churches, clubs or other organizations. Anyone having a question regarding resident status should contact Student Services.

Tuition*

Fall and Spring Semester:	
N.C. residents per semester	$280.00
Nonresident of N.C. (14 or more credit hours)	$2282.00
Part-time N.C. residents per credit hour per semester	$20.00
Nonresident of N.C. per credit hour per semester (fewer than 14 credit hours)	$163.00
Late Registration Fee	$5.00
Return Check Charge	$15.00
Summer Semester:	
N.C. residents per semester	$180.00
Nonresident of N.C. (9 or more credit hours)	$1467.00
Part-time N.C. residents per credit hour per semester	$20.00
Nonresident of N.C. per credit hour per semester (fewer than 14 credit hours)	$163.00
Late Registration Fee	$5.00
Return Check Charge	$15.00

North Carolina residents 65 years of age and older are exempted from the payment of curriculum tuition and registration fees for classes in Continuing Education.

* Tuition is subject to change.

Student Activity Fees

The student activity fee will be charged each semester based upon the number of credit hours taken during the day at the Asheville campus. The student who enrolls for nine or more day, on-campus credit hours will be charged a student activity fee of $10.00 for fall and spring semesters and $8.00 for summer semester. The student who enrolls for eight or fewer day, on-campus credit hours will be charged a student activity fee of $5.00 for fall and spring semesters and $4.00 for summer semester.

Student Insurance

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to insure safety, it is felt to be in the interest of all students to provide some measure of insurance protection.

A group policy, providing the desired insurance protection, will be maintained in effect by the College and all students will be REQUIRED to subscribe to such coverage. The cost of accident insurance to the student will be approximately $3.00 per semester.

Tuition Refund Policy

A 100 percent refund shall be made if the student officially withdraws prior to the first day of classes of the semester as noted in the college calendar. Also, a student is eligible for a 100 percent refund if the class in which the student is registered is canceled.

A 75 percent refund shall be made if the student officially withdraws from the class(es) prior to or on the official 20 percent point of the semester.

Insurance and student activity fees are NOT refundable.

Federal regulations, if different from above, will overrule this policy.

Subject to change pending legislative action.

Tuition Refund Procedure

To be eligible for a tuition refund the student must:

1. Register and pay tuition and fees.
2. Process a Registration Change Notice in Student Records and Registration on or before the 20 percent point of the semester **as defined above.**

Additional Costs

A beginning student should be prepared to incur additional estimated expenses during the academic year (2 semesters and summer term) as follows:

ALLIED HEALTH AND PUBLIC SERVICES EDUCATION	
Books	$375-550
Supplies	$150-425
COLLEGE TRANSFER	
Books	$400-500
Supplies	$100-200
BUSINESS AND HOSPITALITY EDUCATION	
Books	$400-550
Supplies	$50-225

ENGINEERING AND APPLIED TECHNOLOGY

Books	$375-550
Supplies	$120-650

Books and supplies costs vary from year-to-year by curriculum due to price changes, curriculum changes, and instructor preferences. For purposes of definition, the following items may be classified as supplies: pen, pencils, paper, notebooks, instruments, uniforms and shoes, rental of uniforms, safety equipment, hand tools, calculators, lab coats, membership dues, pins and caps. Students will incur most of the supply costs for their curriculum during the first semester of study. Students are encouraged to consult with their department chairperson for actual costs of supplies for their curriculum.

Students should consult with their department chairperson or a member of the Math Department prior to the purchase of a calculator for use in class.

Parking Regulations

All students are required to register their vehicles and display parking permits. Copies of parking regulations are available in the Business Office. Designated parking spaces for individuals with disabilities are located at each facility.

STUDENT FINANCIAL AID

The purpose of the financial aid program at Asheville-Buncombe Technical Community College is to provide assistance to students who, without such aid, would be unable to attend the College. The program is committed to the philosophy that no eligible student should be denied access to a higher education because of a lack of financial resources.

An application for financial aid will gain consideration for grants-in-aid, loans, scholarships and student employment opportunities. In general, financial aid is awarded to students on the basis of need, academic potential, and future promise. In determining the student's need, it is assumed the student will help himself through summer jobs and part-time work while attending school, that the family will provide aid commensurate with its income and resources and that the student will avail himself of any other financial assistance which is available.

Students desiring financial aid for an academic year (August through May) are encouraged to apply early (January through March) to be given priority consideration for the funds available. Applications will be processed until all available funds are awarded.

Copies of all applications mentioned in the following procedure may be obtained from any high school guidance office, most college and university financial aid offices, or the A-B Tech Financial Aid Office. Alternative accessible application formats will be made available to individuals with disabilities upon request to the ADA Coordinator.

Application Procedure

All applicants desiring priority consideration for available financial aid funds must complete the numbered steps below.

1. Before applying for financial aid it is advisable that each applicant complete the first three (3) steps of the Admission Procedure. (See the Table of Contents for the General Admission Requirements and Procedures page reference.)
2. The applicant must complete and mail a free application for Federal

Student Aid to the Federal Student Aid Programs in the envelope which accompanies the application. (Important Note: Applicants may use the electronic version of applying for assistance called FAFSA Express. For more information about FAFSA Express and to order the required software call FAFSA Express customer service at 1-800-801-0576. FAFSA Express applications are processed faster than paper applications.)

3. When completing the application, the applicant must list the appropriate Title IV code number on the application. A-B Tech's code number is 004033.

The applicant will receive a Student Aid Report (SAR) from the processor approximately 3-4 weeks after mailing the application. Once the SAR is received the applicant must contact the Financial Aid Office to assure that the office has received the SAR data electronically and to receive further instructions regarding the application process.

Once the application process has been completed, the applicant's eligibility for assistance will be determined. Official notification of awards is made no earlier than May 15th prior to fall semester enrollment. Each award is contingent upon the availibility of funds.

Students desiring additional information about the Financial Aid Program at ABTCC are urged to write or phone: Director of Financial Aid, Asheville-Buncombe Technical Community College, 340 Victoria Road, Asheville, NC 28801, 704/254-1921, extension 161.

Satisfactory Academic Progress Standards For Financial Aid

Introduction. The Higher Education Act of 1965, as amended by Congress in 1980, mandates institutions of higher education to establish minimum standards of "satisfactory progress" for students receiving financial aid. The federal regulations addressing satisfactory progress were initially published in October, 1983, with amendments made in December, 1987 and then again in April, 1994.

Satisfactory Progress Defined. Generally, a student is considered to be making satisfactory progress toward his/her curriculum program of study when three requirements are satisfied:

1. Maintain a minimum cumulative grade point average based on credit hours attempted. (The qualitative standard required by regulation).
2. Complete a minimum number of credit hours of the total credit hours attempted with grades of A, B, C, or D. (The first quantitative standard required by regulation).
3. Successfully complete the program of study within its maximum time frame. Regulations specify that the maximum time frame may not exceed 150% of the published length of the program for full-time students. (The second quantitative standard required by regulation).

Monitoring Satisfactory Progress. The college will monitor the qualitative and quantitative standards referenced in 1 and 2 above using the chart on the following page. The chart has been designed to accommodate all federally eligible programs of study offered by the college, and variable enrollment status of students (e.g. full-time, half-time, less than half-time).

Credit Hours Attempted*	Minimum Credit Hours To Be Completed**	Minimum Cumulative GPA Required***
1 -10	1	0.50
11-20	4	0.50
21-30	10	0.75
31-40	16	1.00
41-45	23	1.25
46-50	30	1.50
51-55	36	1.75
56-60	40	2.00
61-65	43	2.00
66-70	47	2.00
71-75	50	2.00
76-80	53	2.00
81-85	57	2.00
86-90	60	2.00
91-95	63	2.00
96-100	67	2.00
101-105	70	2.00
106-110	73	2.00
111-114	76	2.00

*Credit hours attempted will be cumulative and will include all hours for which the student was enrolled as of the census date of each academic term or for which the student received a grade. The census date is defined as the day following the last day for registration and payment as outlined in the college catalog.

**Credit hours completed with grades of A,B,C, or D only will fulfill this requirement. Grades of CR,I,P,T,U,W,X,Y,AP, and NP will not fulfill this requirement.

***Cumulative GPA is computed by dividing the total number of quality points earned by the total credit hours attempted for which the student received grades of A,B,C,D,F, or U.

The second quantitative standard referred to as the maximum time frame will be measured independent of the monitoring chart. For each program of study a maximum time frame will be calculated by taking the total credit hours required for the program as outlined in the college catalog and multiplying the total by 150%. Time frames will vary from program to program.
(Examples: Practical Nursing Curriculum requires 47 credit hours to complete the diploma. The time frame is calculated (47 x 150% = 71).

Associate Degree Nursing requires 75 credit hours to complete the degree. The time frame is calculated (75 x 150% = 113).

Associate In Arts (A.A.) Degree requires 64 credit hours to complete the degree. The time frame is calculated (64 x 150% = 96).

Carpentry requires 46 credit hours to complete the diploma. The time frame is calculated (46 x 150% = 69).

The maximum time frame establishes the maximum number of credit hours a student may attempt in an effort to complete a program of study, and at the same time, remain eligible to receive financial assistance.

Key Points to remember regarding the quantitative standard of the time frame:

1. Since the time frame sets the limit for the number of credit hours a student may attempt and remain eligible to receive financial assistance, it is very important that the student plan class schedules carefully with their academic advisor and/or the student services counseling staff. It is the responsibility of the student to register only for classes listed in their chosen major in the college catalog and for scheduling only the number of hours they are capable of completing. SOME STUDENTS WILL BE REQUIRED TO TAKE PROVISIONAL COURSES WHICH WILL ALSO BE COUNTED AS HOURS ATTEMPTED. Students are responsible for knowing the policy concerning the limitation on hours attempted for financial aid purposes. Registering for more courses than a student is capable of completing, having to withdraw from classes, registering for courses for which the student has already received credit, taking courses in error, etc., all impact the time frame and could result in losing financial aid eligibility before completing a program of study.
2. The time frame is cumulative, therefore, by switching programs without completing the initial program the student runs the risk of losing financial aid eligibility.
3. The time frame begins when the student first attends the College and continues until that student successfully completes a program of study regardless of the number of years that may elapse between enrollment periods.
4. Only students who successfully complete a program of study will be given a new time frame should they decide to enter a subsequent program of study. The credit hours attempted to complete the first program will not be included as hours attempted in the time frame for the second program of study.
5. Students who take coursework and are unclassified will have those hours attempted added to their time frame if and when they enter a specific program of study.
6. Provisional students accepted into a program of study who are required to take guided studies or developmental coursework as determined by placement testing results and the professional judgment of a student services counselor, will have the credit hours attempted for such coursework count toward their time frame.
7. The credit hours for course incompletes, withdrawals, and repetitions will be counted as hours attempted toward the time frame.
8. Students switching from a degree program to a vocational program who have or nearly have exceeded the initial time frame may appeal to the Director of Financial Aid for a time frame extension.

Satisfactory Progress Increments. The College will monitor satisfactory academic progress at two points during each academic year (i.e. at the end of both the Fall and Spring Semesters). The only exceptions to this would be (1) for those students returning to the College who have a prior academic record at the college. Such students would be monitored at the time they reenroll since the federal regulations require the standards for progress to cover all periods of enrollment, including those periods for which the student did not receive aid from Title IV funds, and (2) for students who return to the College at their own expense in an effort to reestablish their eligibility. These students would be monitored each term until they meet the satisfactory progress definition.

Based upon the number of credit hours attempted, the student will be expected to complete a minimum number of credit hours with satisfactory grades as described earlier and at the same time maintain a minimum cumulative grade point average without exceeding the maximum time frame. Failure to meet the standards outlined will result in termination of financial aid eligibility. Due to the leniency of the satisfactory progress standards early in the student's program of study, the College will not provide an automatic probationary period during which the student may continue receiving financial aid while attempting to improve upon the number of credit hours completed and/or the cumulative grade point average required. Nevertheless, the College will provide an appeal procedure for reinstatement of financial aid eligibility.

Appeal of Financial Aid Termination. To appeal financial aid termination a student must be able to demonstrate mitigating circumstances. The procedure for appeal is:

1. A student will indicate in writing to the Director of Financial Aid the reasons why he/she did not make satisfactory progress and why financial aid should not be terminated. Documentation to support the appeal is permitted.
2. The Director of Financial Aid will review the appeal to determine whether or not termination of aid is justified. The student will be advised of the decision in writing.
3. A student wishing to appeal the decision of the Director of Financial Aid, may do so, in writing, to the Student Financial Aid Committee, c/o the Financial Aid Office. Additional appeals may be made through the Student Due Process Procedure, then to the President, and finally to the Board of Trustees of the College; if deemed to be necessary by the student.

Reinstatement of Financial Aid Eligibility. Should a student have his/her financial aid eligibility terminated due to not meeting the satisfactory progress definition, termination will continue until the student enrolls for a subsequent academic term at his/her own expense and completes the term satisfying the satisfactory progress definition. Once the satisfactory progress definition is met eligibility is reinstated for the subsequent satisfactory progress increment. In addition, financial aid eligibility will immediately be reinstated for all appeals upheld.

VETERAN'S EDUCATIONAL BENEFITS

The Veteran's Counselor will help incoming veterans evaluate their eligibility for benefits. The Veteran's Office is located in the Azalea Building. Individuals applying for veteran's benefits must meet all entrance requirements and are required to meet the following academic standards as they progress through their programs. Failure to meet these academic standards of progress will result in loss of veteran's educational benefits.

Satisfactory Progress Standards For Veterans And Others Enrolled Under The Veteran's Program

1. Students receiving veteran's benefits will be placed on academic probation if they fail to maintain the following quality point averages:

End of Semester	Minimum Cumulative Quality Point Average
1	1.50
2	1.75
3 and thereafter	2.00

2. Students will be suspended from receipt of veteran's educational benefits if their cumulative quality point average falls below:
   a. The minimum requirement indicated above at the end of one semester academic probation.
   b. 1.50 after attempting a minimum of 30 hours.
3. Students placed on probation or suspension will be informed and counseled by the Veteran's Counselor:
4. Suspension from receiving veteran's educational benefits is for one semester. Benefits will be reinstated once the veteran maintains satisfactory progress for one semester.

GENERAL STUDENT INFORMATION

Class Attendance

Regular and punctual class attendance is expected of all students for them to achieve their potential in class and to develop desirable personal traits necessary to succeed in employment. Instructional time missed is a serious deterrent to learning. Students are responsible for fulfilling the requirements of the course by attending and completing course assignments. An accurate record of class attendance will be kept.

If instructional time is missed for excusable reasons, the student will be permitted to make up work to the extent possible. Because of the nature of some learning experiences, especially clinics, labs and shops, it is difficult, if not impossible to duplicate the work of the class. In some courses, absence or tardiness of an individual may be a major disruption to the performance of others in the class or an inconvenience to other organizations such as hospitals and clinics. The faculty may develop guidelines for advance notice of absences, makeup of work, etc. Students will be informed of guidelines at the beginning of the course.

To receive course credit, a student should attend a minimum of 80 percent of the contact hours of the class. Upon accumulating absences exceeding 20 percent of the course contact hours (see table on the following page), the student *may be* dropped from the class with a grade of "U" at the discretion of the instructor. A tardy is defined as arriving late for class, leaving early, or being away from class without permission during class hours. Three tardies may constitute one absence.

Examples of Excessive Absence

Total Class Contact Hours	Excessive Hours Absence
48	10
64	13
80	16
96	19
112	22
Other Hours	Hrs. x 0.20 rounded to the nearest hour

It is the joint responsibility of the student and faculty to discuss attendance patterns that will endanger the success of the student in the course. If it appears that a student will not be able to complete a course successfully, the faculty may advise the student to withdraw no later than the official withdrawal date at the end of the twelfth week of classes.

Code of Student Conduct

Almost 6,500 students, faculty, and staff are part of the A-B Tech family. Every year hundreds of people graduate from the College, and hundreds of new freshmen take their places. To protect all these students and employees from the irresponsible actions of others, the College has adopted basic rules of student conduct.

Students who have been charged with a violation of these rules may be assigned consequences based upon the seriousness of the offense. A hearing will be conducted by the Vice President for Student Services.

Consequences for violations include verbal warnings, written warnings, disciplinary probations, particular consequences adapted to the violation, and suspensions. Any disciplinary decision rendered by the Vice President for Student Services may be appealed to the President.

Any student charged with a violation of the Code of Student Conduct will receive a written copy of the charges and an appointment for a hearing. Rights, as they pertain to the hearing, are listed elsewhere in this manual.

The following actions are specifically prohibited on this campus under the Code of Student Conduct:

1. Academic Dishonesty - You may not deceive any official of the College by cheating on any assignment, examination, or paper.
2. Alcoholic Beverages - You may not possess or use alcoholic beverages on campus. You may not be under the influence of alcoholic beverages on campus.
3. Damage to Property - You may not damage the property of the College or of any other person working at or attending the College.
4. Disobedience - You may not disobey the reasonable directions of College employees, including administrators, faculty members, security officers, and other staff employees.
5. Disorderly Conduct - You may not conduct yourself in a way which will interrupt the academic mission of the College or which will disturb the peace of the College.
6. Disruption - You may not disrupt the normal activities of the College by physically or verbally interfering with instruction, meetings, traffic, or scheduled administrative functions.
7. Drugs - You may not possess, use, or be under the influence of any narcotic or illegal drug on campus in violation of the laws of the state of North

Carolina or the United States.

8. False Information - You may not present to the College or its employees false information; neither may you knowingly withhold information which may have an effect on your enrollment or your status in the institution and which is properly and legally requested by the College.
9. Assault - You may not strike or threaten to strike another person for any reason whatsoever. Threatening to strike another person is defined as assault, and striking another person is defined as battery.
10. Gambling - You may not gamble on campus.
11. Possession of Weapons - You may not have a weapon of any kind, including a knife, stun gun, or any firearm in your possession on campus. Law enforcement officers are exempt from this prohibition.
12. Professional Conduct: Various curricula have specific codes of professional conduct for which you may be held accountable if you are enrolled in those curricula.
13. Theft - You may not steal the property of another individual or of the College. Students who are caught stealing will be required to make restitution as well as be subject to disciplinary action.
14. Public Laws - You may not violate the laws of the state of North Carolina while on campus. Doing so may lead to legal actions as well as campus discipline.
15. Sexual Harassment - You may not sexually harass, either verbally or physically, any member of the College community, including other students, employees, or other persons on the College campus.

Rights Of Students

If you are accused of a violation of the Code of Student Conduct, A-B Tech guarantees you these rights as the matter is resolved:

1. You have the right to a specific written notice of the charges against you.
2. You have the right to know the names of your accusers and to have a copy of all their written statements regarding the charges.
3. You have the right to decide whether your hearing will be public or private.
4. You have the right to a prompt hearing.
5. You have the right to have a counsel of your choice present at the hearing.
6. You have the right to confront your accusers and to hear all witnesses.
7. You have the right to present witnesses or evidence in your own behalf.
8. You have the right to remain silent to avoid self-incrimination.
9. You have the right to a full and complete record of the hearing.
10. You have the right to an appeal.

Student Appeal Policy

If you feel that you have been disciplined unfairly or wish to appeal some other decision which you consider to be unjustified, unfair, or a violation of your rights, then you should appeal that decision. In order to appeal the decision, you should use the Student Appeal Policy which is summarized below. A complete copy is available from the Vice President for Student Services in the Azalea Building.

The intention of the Student Appeal Policy is that the faculty member or other employee who has been responsible for the act which you consider to be unfair will attempt, in good faith, to resolve the dispute. You are encouraged to discuss the matter with him or her in an attempt to resolve it. If it is not possible to resolve the matter at this level, then you should bring the matter to the attention of the Vice President for Student Services.

The Vice President will hold an informal session to which you and the employee concerned are invited. Every attempt will be made to resolve the matter at that level, even if multiple sessions are required. If the problem is not resolved, then the Vice President for Student Services will inform you of the formal appeals procedure and provide you with an appeal form.

The appeal form must be filled out and returned to the Vice President for Student Services within five days. The appeal form must be signed by the student and the employee involved. It should also be signed by the supervisor or supervisors of the employee involved up the chain of command through the appropriate Vice President. Each of these supervisors may propose solutions to the disagreement which, if accepted by both parties, will result in resolution of the problem. Failure to reach agreement at any level in the appeal process will require that the matter be taken up to the next higher level.

Particular attention will be made to ensuring that night students can have access to supervisors who are otherwise available during the day hours only.

If the matter remains unresolved through the level of the appropriate Vice President, then you should return to the Vice President for Student Services who will then turn the matter over to the Student Appeals Committee. This Committee, which is composed of two students, two faculty members, a Student Services employee, and a nonteaching professional who will serve as chairperson, is called together by the Vice President for Student Services. The chairperson will conduct the meeting and render a decision which reflects the popular opinion of the Committee. If further appeal is necessary, then the matter is referred to the President. The decision of the president is final.

When this policy is used to appeal a disciplinary action taken by the Vice President of Student Services in his or her capacity as the College discipline officer, the appeal will go directly to the President whose decision is final.

As stated earlier, a complete copy of this policy is available from the Vice President for Student Services, and you are encouraged to see him or her if you feel that an appeal is necessary.

Grading System

Notice will be given to all students who are failing at midterm and final grades will be issued at the end of the term to all students. Students will be graded on the achievement of technical skills, ability to work under supervision, interest in work, initiative, and the ability to apply related information. A student who wants to contest a grade must do so within six weeks of the awarding of the grade. A grade cannot be changed after this period without approval by the department, division, and by the Vice President of Instructional Services.

Students will be graded by the following system:

A	90-100	Excellent academic performance, consistent mastery of facts and concepts, and a thorough understanding of course content.
B	80-89	Good academic performance, high-level mastery of course content.
C	70-79	Average academic performance.

D	60-69	Marginal academic performance, poor mastery of course content.
F	Below 60	Very poor performance, no demonstration of even minimal mastery of course content.

CR	Credit - Articulation, CLEP, etc.
I	Incomplete
P	Proficiency Credit by Examination
T	Transfer Credit (External)
U	Unofficial Withdrawal...Penalty
W	Official Withdrawal…No Penalty
X	Continuing
Y	Audit; See Auditing Courses

I…Incomplete: Assigned when a student is unable to complete work or take a final examination because of illness or for other reasons over which the student has no control. An "incomplete" must be removed within the first six weeks of the next term. Otherwise, the grade becomes an "F."

U...Given when the student UNOFFICIALLY WITHDRAWS or is dropped for excessive absences. This is processed as a grade of "F" and will influence the quality point ratio.

W…Given when the student OFFICIALLY WITHDRAWS. This will not influence the quality point ratio.

X…Continuing: Assigned when a student is unable to complete work during the current semester because of class scheduling over consecutive semesters or at the discretion of the instructor to allow additional time to complete work. A "contract" of conditions for completion and time limit, not to exceed twelve (12) months, will be executed by the instructor and signed by both the instructor and student. If the terms to remove the grade of "X" are not fulfilled by the end of the contract period, the grade will revert to the average held at the beginning of the contract period.

Privacy Of Student Records

1. In compliance with the Family Educational Rights and Privacy Act of 1974, commonly known as the Buckley Amendment, Asheville-Buncombe TechnicalCommunity college will not release information concerning its students except for directory Information, and as stipulated in paragraph 3 below. Directory Information is defined as:

    a. name
    b. address
    c. telephone number
    d. date of birth and place of birth
    e. major field of study
    f. dates of attendance
    g. degrees received

Directory Information will be released to anyone who asks for it, unless the student specifies in writing to Student Records and Registration that this information is to be withheld. In such cases, no directory information will be released.

2. A student over the age of 18 is considered an "eligible student" within the definition of the law and controls who has access to his or her records. A parent of an eligible student does not automatically have access to the student's records. In order for parents to have access to a student's records, beyond directory information and without written permission from the student, a parent must certify that the student is economically dependent as defined in Section 152 of the Internal Revenue Code of 1954. If a parent can prove dependency to Student Records and Registration by showing a copy of the parent's current tax report form or another acceptable report of current dependency, then the parent may have total access to the student's file.

3. Asheville-Buncombe Technical Community College will release a student's educational records without his or her approval only as follows:

   a. to Asheville-Buncombe Technical Community College officials who have legitimate educational interest in the records.
   b. to officials of another college or university in which a student seeks to enroll.
   c. to certain federal and state educational authorities for purposes of enforcing legal requirements in federally supported educational programs.
   d. to persons involved in granting financial aid for which the student has applied.
   e. to state and local authorities to whom information is required to be disclosed under the provisions of a statute adopted prior to November 19, 1974.
   f. to testing, research, and accrediting organizations.
   g. in compliance with a court order or lawfully issued subpoena.
   h. in very narrowly defined emergencies affecting the health and safety of the student or other persons.
   i. to parents of eligible students under the provision of paragraph 2 above.

4. For further information concerning the Federal Educational Rights and Privacy Act, a student may contact Student Records and Registration of Asheville-Buncombe Technical Community College.

Course Withdrawal

In order to obtain an official withdrawal or tuition refund, if due, during the first twelve weeks of a semester, a student must complete a Registration Change Notice form obtained from Student Records and Registration. The student must have the form signed by the appropriate instructor(s) after the third week of the semester and return it to Student Records and Registration. Before the third week, the student may drop classes on his/her own signature. The student will receive a grade of "W," which will not influence the quality point ratio. Any student who ceases to attend classes and does not complete the Registration Change Notice form will have a grade of U recorded for the class.

After the twelfth week of the semester, any student who stops attending class will receive a grade of U.

Exceptions such as serious illness or job transfer requiring withdrawal from all classes after the twelfth week will be considered on an individual basis by the Vice President for student services.

A student who is withdrawn from a class may no longer attend the class.

College Withdrawal

Students who withdraw from the college or drop individual courses before the end of the twelfth week of the semester must complete the procedures and forms through Student Records and Registration. A grade of "W" will be assigned. To withdraw from the college after the twelfth week (i.e. drop all courses), a student must:

1. Obtain a withdrawal form from the Vice President, Student Services.
2. Document valid reason(s) for needing to withdraw.
3. Discuss the need to withdraw with Vice President, Student Services. Students who are approved for late withdrawal from all courses will receive a grade of "W."

If an emergency prevents the student from completing the withdrawal process before leaving the campus, the student should call, write or arrange for someone to contact the Vice President, Student Services.

Quality Points

At the end of each semester quality points are assigned in accordance with the following formula. (The minimum grade-point ratio for graduation is 2.00 or an average of grade C.)

A	4 quality points per credit hour
B	3 quality points per credit hour
C	2 quality points per credit hour
D	1 quality point per credit hour
F	no quality points
I	no quality points
U	no quality points
W	no quality points

Quality ratings are determined by dividing the total number of quality points by the number of hours attempted. A ratio of 2.00 indicates that a student has an average of C.

Grades For Repeated Courses

All failing grades in required courses must be removed before graduation. If a student fails a prerequisite course, it must be repeated successfully before beginning the next course. This could result in the student being enrolled for a longer period than is normally required to complete requirements for graduation.

As courses are repeated, the higher grade becomes the official grade. Only a grade of *D* or above can replace an existing grade.

Standards For Academic Progress
(Academic Warning, Probation and Suspension Policy)

Asheville-Buncombe Technical Community College has established this policy to:

- provide students with a warning when they fail to meet minimal academic performance standards;
- limit scheduling when a student's academic performance indicates the necessity for intervention;
- provide a means of preventing and/or terminating prolonged failure.

This policy applies to all students, classified and unclassified.

Students whose grade point average (GPA) falls below the following guidelines are subject to academic warning, which may be followed by probation and suspension.

Semester Hours Completed	Minimum Cumulative GPA*
0-6	0.50
7-13	0.75
14-19	1.00
20-26	1.25
27-33	1.50
34-39	1.75
40+	2.00

** Cumulative Grade Point Average will be calculated using the current official grade for each course taken at Asheville-Buncombe Technical Community College. (Unless the grade is excluded according to Academic Fresh Start.)*

I. Academic Warning

Students failing to meet the minimum cumulative GPA during any semester will receive an academic warning. The warning will be mailed by the Student Records and Registration Office to the student, and advisor will be notified of the student's status. The warning advises students of their academic status and encourages them to meet with their advisor immediately to examine present academic plans.

II. Probation

Students whose minimum cumulative GPA falls below the guidelines for two consecutive semesters will be placed on probation, which means the student **will** have restricted scheduling and **must meet with their advisor to do one or more of the following**:

- limit the number of hours attempted;
- schedule preparatory or remedial courses as needed;
- schedule repeat of courses.

III. Suspension

Students whose minimum cumulative GPA falls below the guidelines for three consecutive semesters will be placed on academic suspension for one semester. This means that those students will not be allowed to register for curricular or precurricular courses. Continuing Education courses may still be taken.

IV. Appeals

Academic Suspension only can be appealed through the Vice President for Student Services. Appeals will be considered on the day before classes begin for the semester when suspension goes into effect.

V. Reenrollment After Suspension

Students may reenroll after suspension for one semester. They must contact the Counseling Department to schedule an appointment with a counselor to discuss and develop appropriate plans for their success. The counselor will assign the student to a faculty advisor who will help carry out the plan for academic achievement developed between the student and the Student Services counselor.

Dean's List

1. Only full-time students are eligible for the Dean's List. For the Dean's List, students must be enrolled in an academic program, carrying a minimum of 8 credit hours of curriculum courses numbered 100 or above.
2. Students must have a minimum 3.75 quality point average to qualify for the semester under consideration.
3. Grades of F, I, or X will eliminate a student from the Dean's List for that semester. Students receiving credit for a course by examination are not affected.
4. The Dean's List will be compiled by Student Records and Registration, Secretary of Instructional Services, and Department Chairpersons. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President, Instructional Services, will be responsible for final approval and publication.

DEGREES, DIPLOMAS, AND CERTIFICATES

Degree Programs Defined

Asheville-Buncombe Technical Community College confers an Associate in Arts, Associate in Applied Science, or an Associate in Science. These degrees are conferred in the name of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

Diploma Programs Defined

Asheville-Buncombe Technical Community College awards a diploma in all one-year vocational curricula. A diploma may be awarded upon completion of the first half of some degree programs. Diplomas are granted in the name of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

Certificates

Certificates may be issued in the name of the Asheville-Buncombe Technical Community College to students who successfully complete designated short-term programs or course sequences.

NOTE: Records of progress are kept on all students. Progress records are furnished to any student or graduate upon written request.

REQUIREMENTS FOR GRADUATION

The College holds one graduation ceremony each year. This is in August. To graduate with a diploma or degree, students must meet the following minimum requirements:

1. Complete the requirements of a College approved program of study according to the student's official catalog. The official catalog is determined by the student in consultation with the academic advisor and must be a College catalog dated no more than four years prior to the date of graduation. For example, a student who is applying for graduation in August, 1997 (96-97 College year), must have completed a program of study according to a catalog dated 1996,1995, 1994, or 1993. The student cannot select a catalog which was in effect prior to admission to his/her program of study. The student must document the official catalog selected on the Application for Graduation. No student may graduate in a catalog which contains quarter course requirements after the Summer of 1999. Students who graduate after the Summer of 1997 will have a Transitional Advising Guide (TAG) form prepared to provide a definitive list of semester courses needed to meet graduation requirements.
2. Each course in the program of study must be completed by one of the following methods:
   a. Take the course at A-B Tech.
   b. Receive transfer credit.
   c. Take an A-B Tech proficiency exam.

   At least half of the credit hours in a program of study must be received at this College by taking courses and/or proficiency examinations.
3. Earn a grade of at least C in each course with a major prefix and a minimum average of 2.0 (C) quality points for the current program.

   Students completing their study with a grade point average of 4.0 will graduated with highest honors. Those who have a minimum average of 3.75 will be graduated with high honors and a minimum of 3.50 has the distinction of honors. The student must assume primary responsibility for assuring that all requirements for graduation are met.
4. Submit an application for graduation to Student Records and Registration before the published deadline date. Purchase caps, gowns, and diplomas.
5. Be in good standing; fulfill all financial obligations to the College; library clearance is also required.
6. Be present for graduation and attired in the proper academic robe. (Students who cannot attend graduation must submit to the President a written request to be excused two weeks prior to graduation.)

Changing Majors or Adding a Second Major

In order to change majors, or add a second major, the student needs to see a counselor in Student Services. A change-of-major form indicating the new major or the second major must be completed by the counselor. The catalog in effect at the time of this declaration will be the catalog for this major. (See Requirements for Graduation.)

CAMPUS SERVICES

LRC

The LRC provides a variety of services. A coin-operated copier and a microfiche/microfilm reader/printers are available. The LRC also provides typewriters and computers free of charge for currently enrolled students and faculty.

Interlibrary loan service is available through computer connections with other libraries. For the convenience of students, a number of routine library functions are now automated. The LRC has electronic indexes and full-text databases, such as SIRS, CINAHL, Academic Abstracts and PROQUEST, as well as an automated catalog to the collection and automated circulation. These services are available during regular operating hours. Individuals with disabilities will be assisted and accommodated by LRC staff.

Dental Clinic

Throughout the year the Allied Dental Department provides oral health services, such as patient education, dental X-rays, cleaning the teeth, nutritional counseling, and sealants. During Spring and Summer semesters limited dental services such as fillings, crowns and partial dentures are also available. A nominal fee is charged for these services. Call the Allied Dental Clinic, extension 255, for an appointment and approximate charges for services.

Bookstore

A bookstore is operated by the College for the convenience of students and staff members to provide required textbooks and materials. Students should plan to purchase all texts and materials at the beginning of each semester.

Textbook costs vary considerably depending upon the curriculum and semester. Book costs also vary from year to year because of changes in curriculum book prices, texts, and material requirements. Texts and materials will be made available in alternative accessible formats for individuals with disabilities upon request to the ADA Coordinator.

Child Care

Asheville-Buncombe Technical Community College offers child care services for children of College students. Faculty, staff, and the general public may also apply for the service.

The Center, operated by Buncombe County Child Development, is open both during day and evening hours.

The day program accepts children from 2 months to 5 years. The evening program will care for the older child as well. An evening meal is provided. Individuals who meet State and Federal income guidelines may apply for financial assistance.

Arrangements can be made by calling either 255-5725 or 255-5111 from 8:30 a.m. to 5:00 p.m. Monday through Friday.

College Closing or Delayed Opening

The College will either be closed or opened on a delayed schedule when inclement weather conditions warrant a decision. Closing or delaying announcements are placed on the switchboard automated attendant and will be made on Asheville radio and television stations and some surrounding community radio stations. Individual announcements are made for the day and evening programs.

Food Services

Food service is available in the Oak Gym/Student Center. Breakfast and lunch meals, including sandwiches, salads, and soups, are prepared daily. Hours of operation are from 7:00 a.m. to 2:00 p.m.

Vending machines dispensing soft drinks, coffee, and snacks are located at various locations around campus.

The Culinary Technology and Hotel and Restaurant Management students serve lunch on scheduled Thursdays during fall and spring semesters. See the student newspaper, A-B Tech Expressions, for times, dates, and reservation information.

Parking Locations

Parking is provided at various locations around campus. Please refer to the campus map located in this catalog for specific sites. Students with disabilities are provided at all locations. Parking areas are lighted during eveninghours.

Spaces marked with yellow lines are reserved for faculty, staff, disabled persons, and visitors. White-lined spaces are reserved for students.

Honorary Societies

The college is proud to sponsor the Alpha Upsilon Eta Chapter of Phi Theta Kappa Academic Honor Society. Membership is open to any student who has a 3.5 GPA after 24 credits of completed work. Eligible students are welcome to seek more information from the Director of Student Activities in the Oak Student Center.

Recreation Center

A recreation center is located in the Oak Gym/Student Center for those students with spare time and who wish to play coin-operated video games or billiards.

Security

Security personnel are on duty 24 hours a day, seven days a eek. Each security officer is certified to respond to medical emergencies.

Student Housing

Students are responsible for their own living accommodations. A-B Tech neither approves nor maintains housing facilities. Students who are looking for housing or roommates may check bulletin boards in the Azalea Building or the Oak Gym/Student Center.

Placement Service

No reputable college can guarantee jobs for graduates. However, the College will assist students and alumni in every possible way to obtain suitable employment. The College provides placement service for both full-time and part-ime jobs through the Placement Office, which is located in the Oak Gym/Student Center.

Career Programs

Asheville-Buncombe Technical
Community College

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

Meet a Current A-B Tech Student

Name	**Jake Haun**
Major	Associate Degree Nursing
Employment	Emergency Department Assistant, Emergency Care Center, Memorial Mission Hospital
	"As President of the Student Government Association, the more I learn about A-B Tech, the more I see the school's value to the community and to its students. With the various curriculums offered here, A-B Tech can be an important gateway to success for all those who seek the opportunity."

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

	Associate Degree Nursing	Criminal Justice Technology	Dental Assisting
Recommended High School Courses	Algebra II Advanced Biology Composition Courses in Health Occupations Anatomy/Physiology Keyboarding	English courses particularly those with emphasis on writing skills	Chemistry Advanced Biology Courses in Health Occupations Keyboarding
A-B Tech Entrance Requirements	Chemistry Biology English (4 units) Mathematics (2 units) Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for fulldetails.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	High School Diploma or GED Computer Keyboarding Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.
Program Schedule	Day Begins Fall	Day/Night Begins Fall Can take single courses any semester	Day Begins Fall
Degree	Associate in Applied Science	Associate in Applied Science	A diploma is awarded.
Employment Opportunities	Hospitals Long Term Care Facilities Clinics Physicians Offices Industry Community Health Agencies	Law Enforcement Highway Patrol Deputy Sheriff Private Security Magistrate Correctional Officer Surveilance Officer Alcohol Law Enforcement Wildlife Enforcement	V.A. Clinics Health Depts. State Clinics Dental Schools Private & Group Practices Clinics

Continued on next page

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

	Dental Hygiene	Early Childhood Associate	Emergency Medical Science
Recommended High School Courses	Anatomy/ Physiology Plane Geometry (or Algebra II) Advanced Biology Courses in Health Occupations Keyboarding	Composition Literature Keyboarding Courses in Childcare Occupations	Anatomy, Biology Mathematics Chemistry Composition Courses in Health Occupations Keyboarding
A-B Tech Entrance Requirements	Chemistry, Biology, Computer Keyboarding, English (4 units), Mathematics (2 units: one must be Algebra) *Competitive selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.
Program Schedule	Day Begins Fall	Day Enter Program at the Start of any Semester	Day Begins Fall
Degree	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
Employment Opportunities	Dental Offices Education Local, State, & Federal Govt. Agencies Private Industry	Child Care Worker Child Care Assistant Director, Child Care Director, Preschool	Emergency Medical Services Hospitals Urgent Care Clinics Doctor's Offices Private Ambulance Companies

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

	Medical Laboratory Technology	Practical Nursing	Radiography
Recommended High School Courses	Anatomy Biology Applied Math Geometry (strongly recommended) Keyboarding	Anatomy/ Physiology Advanced Biology English Composition, Courses in Health Occupations Keyboarding	Anatomy Advanced Biology Applied Math Physics (strongly recommended) Keyboarding
A-B Tech Entrance Requirements	Chemistry, Biology, Algebra I English (4 units) Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.	English (4 units) Mathematics Biology Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.	Biology Algebra I Competitive *selection* after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT). See Selection Criteria and Procedures for Allied Health Programs brochure for full details.
Program Schedule	Day Begins Fall	Day Begins Fall	Day Begins Fall
Degree	Associate in Applied Science	A diploma is awarded.	Associate in Applied Science
Employment Opportunities	Hospitals Emergency Care Clinics, Health Departments Doctor's Offices General Clinics	Hospitals Long-Term Care Facilities Physicians' Offices Industry Community Health Agencies	Hospitals Health Depts. Doctors Offices Emergency Care Clinics Industry Imaging Centers

Continued on next page

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

	Social Services
Recommended High School Courses	Composition Literature Keyboarding Courses in Sociology Psychology
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall
Degree	Associate in Applied Science
Employment Opportunities	Case Aide, Social Service Social Worker Aide

ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

The Allied Health and Public Service Education division offers a variety of programs designed to meet the increasing demand for specialized professionals in the burgeoning health care, child care, and public service industries. The programs in this division present a broad range of career options for individuals desiring a career in a helping profession. The division offers a variety of programs at the Associate in Applied Science degree, diploma, and certificate levels. Some areas of study are offered on a day and evening basis.

In addition to classroom and laboratory instruction, each program emphasizes learning experiences at health and public service settings in the community. This extensive training at clinical, pre-hospital, laboratory, child care, or law enforcement facilities affords students a unique opportunity to develop the specialized skills required for employment in a health or public service profession.

An individual desiring training in a health or public service program should have a background in chemistry, biology, science, mathematics, and social sciences. The applicant to an area of study in this division should become familiar with the selection criteria and application deadlines for the specific program. Persons interested in a health or public service career are advised that professional licensure, certification, or employment may be denied to anyone who has been convicted of a felony or other crime involving moral turpitude.

A.A.S. DEGREE CONFERRED

Associate Degree Nursing
Criminal Justice Technology
Dental Hygiene
Early Childhood Associate
Emergency Medical Science
Medical Laboratory Technology
Radiography
Social Services

DIPLOMA AWARDED

Dental Assisting
Practical Nursing

CERTIFICATE AWARDED

Basic Law Enforcement Training
Early Childhood Associate
Phlebotomy

ASSOCIATE DEGREE NURSING

This curriculum provides individuals with the knowledge and skills necessary to provide nursing care to clients and groups of clients throughout the lifespan in a variety of settings.

Courses will include content related to the nurse's role as provider of nursing care, as manager of care, as member of the discipline of nursing, and as a member of the interdisciplinary team.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a Registered Nurse. Employment opportunities include hospitals, long term care facilities, clinics, physician's offices, industry, and community agencies.

ASSOCIATE DEGREE NURSING

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (NUR, BIO Prefix)		52
Related and General Education Courses including:		23
English/Oral Communications	7	
Humanities/Fine Arts	3	
Natural Science/Mathematics	8	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		75

			Hrs. Per Week			Credit
			Class	**Lab**	**Clinic**	**Hrs.**
First Semester (Fall)						
BIO	168	Anatomy and Physiology I	3	3	0	4
NUR	115	Fundamentals of Nursing	2	3	6	5
NUR	117	Pharmacology	1	3	0	2
NUR	133	Nursing Assessment	2	3	0	3
ENG	111	Expository Writing	3	0	0	3
ENG	111A	Expository Writing Lab	0	2	0	1
			11	14	6	18
Second Semester (Spring)						
BIO	169	Anatomy and Physiology II	3	3	0	4
NUR	135	Adult Nursing I	5	3	9	9
CIS	111	Basic PC Literacy	1	2	0	2
			9	8	9	15

Third Semester (Summer)					
NUR 185	Mental Health Nursing	3	0	6	5
NUR 188	Nursing in the Community	1	0	6	3
SOC 215	Group Processes	3	0	0	3
		7	0	12	11
Fourth Semester (Fall)					
NUR 125	Maternal-Child Nursing	5	3	6	8
NUR 255	Professional Issues	3	0	0	3
ENG 114	Professional Research and Reporting	3	0	0	3
	Humanities Elective	3	0	0	3
		14	3	6	17
Fifth Semester (Spring)					
NUR 116	Nursing of Older Adults	2	3	3	4
NUR 235	Adult Nursing II	4	3	15	10
		6	6	18	14
	Program Totals	**47**	**31**	**51**	**75**

BASIC LAW ENFORCEMENT TRAINING

Basic Law Enforcement Training (BLET) is designed to give students essential skills required for entry-level employment as law enforcement officers with state, county, or municipal governments, or with private enterprise.

This program utilizes State-commission-mandated topics and methods of instruction. General subjects include, but are not limited to, criminal, juvenile, civil, traffic, and alcoholic beverage laws; investigative, patrol, custody, and court procedures; emergency responses; and ethics and community relations.

Successful graduates receive a curriculum certificate and are qualified to take certification examinations mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or the North Carolina Sheriffs Education and Training Standards Commission

BASIC LAW ENFORCEMENT TRAINING

Certificate Program

This program consists of:	Credit Hrs.
One Major Course	18

		Hrs. Per Week		**Credit**
		Class	**Lab**	**Hrs.**
CJC 100	Basic Law Enforcement Training	9	27	18

CRIMINAL JUSTICE TECHNOLOGY

This curriculum is designed to provide practical knowledge of criminal justice systems and operations. Study will focus on local, state, and federal law enforcement, judicial processes, corrections and security services. The criminal justice system's role within society will be explored.

Emphasis is on criminal justice systems, criminology, juvenile justice, criminal and constitutional law, investigative principles, ethics and community relations. Additional study may include issues and concepts of government, counseling, communications, computers and technology.

Employment opportunities exist in a variety of local, state, and federal law enforcement, corrections, and security fields. Examples include police officer, deputy sheriff, county detention officer, state trooper, intensive probation / parole surveillance officer, correctional officer, and loss prevention specialist.

CRIMINAL JUSTICE TECHNOLOGY

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (CJC Prefix)		54
Related and General Education Courses including		22
English/Oral Communications	9	
Humanities/Fine Arts	3	
Natural Science/Mathematics	3	
Social Sciences	3	
Other	4	
PROGRAM TOTAL		76

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CJC	111	Introduction to Criminal Justice	3	0	3
CJC	121	Law Enforcement Operations	3	0	3
CJC	231	Constitutional Law	3	0	3
CIS	111	Basic PC Literacy	1	2	2
ENG	111	Expository Writing	3	0	3
PED	110	Fit and Well for Life	1	2	2
			14	4	16

Second Semester (Spring)

CJC	112	Criminology	3	0	3
CJC	132	Court Procedure and Evidence	3	0	3
CJC	151	Introduction to Loss Prevention	3	0	3
CJC	222	Criminalistics	3	0	3
HUM	115	Critical Thinking	3	0	3
			15	0	15

Third Semester (Summer)

CJC	113	Juvenile Justice	3	0	3
CJC	114	Investigative Photography	1	2	2
CJC	131	Criminal Law	3	0	3
CJC	214	Victimology	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
			13	2	14

Fourth Semester (Fall)

CJC	211	Counseling	3	0	3
CJC	213	Substance Abuse	3	0	3
CJC	221	Investigative Principles	3	2	4
CJC	232	Civil Liability	3	0	3
SOC	225	Social Diversity	3	0	3
			15	2	16

Fifth Semester (Spring)

CJC	122	Community Policing	3	0	3
CJC	212	Ethics and Community Relations	3	0	3
CJC	215	Organization and Administration	3	0	3
COM	231	Public Speaking	3	0	3
MAT	115	Mathematical Models (or MAT 161)	2	2	3
			14	2	15
		Program Totals	**71**	**10**	**76**

This program is also offered in the evening schedule. See Evening Programs listing.

DENTAL ASSISTING

This curriculum prepares individuals to assist the dentist in the delivery of dental treatment and to function as integral members of the dental team while performing chairside and related office and laboratory procedures.

Course work includes instruction in general studies, biomedical sciences, dental sciences, clinical sciences, and clinical practice. A combination of lecture, laboratory, and clinical experiences provide students with knowledge in infection/hazard control, radiography, dental materials, preventive dentistry, and clinical procedures.

Graduates of this program maybe eligible to take the Dental Assisting National Board Examination to become Certified Dental Assistants. As Dental Assistant II's, defined by the Dental Laws of North Carolina, graduates work in dental clinics/offices, and insurance companies.

DENTAL ASSISTING

Diploma

This program consists of:		Credit Hrs.
Major Courses (DEN Prefix)		37
Related and General Education Courses including:		11
English/Oral Communications	3	
Natural Science/Mathematics	3	
Social Science	3	
Other	2	
PROGRAM TOTAL		48

			Hrs. Per Week			Credit
			Class	Lab	Clinic	Hrs.
First Semester (Fall)						
DEN	101	Preclinical Procedures	4	6	0	7
DEN	103	Dental Sciences	2	0	0	2
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	112	Dental Radiography	2	3	0	3
BIO	106	Introduction to Anatomy/ Physiology/Microbiology	2	2	0	3
			14	13	0	20
Second Semester (Spring)						
DEN	102	Dental Materials	3	4	0	5
DEN	104	Dental Health Education	2	2	0	3
DEN	105	Practice Management	2	0	0	2
DEN	106	Clinical Practice I	1	0	12	5
			8	6	12	15
Third Semester (Summer)						
DEN	107	Clinical Practice II	1	0	12	5
CIS	111	Basic PC Literacy	1	2	0	2
ENG	102	Applied Communication II	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			8	2	12	13
		Program Totals	**30**	**21**	**24**	**48**

DENTAL HYGIENE

This curriculum prepares individuals with the knowledge and skills to assess, plan, implement, and evaluate dental hygiene care for the individual and the community.

Students will learn to prepare the operatory, take patient histories, note abnormalities, plan care, teach oral hygiene, clean teeth, take x-rays, apply preventive agents, complete necessary chart entries, and perform other procedures related to dental hygiene care.

Graduates of this program may be eligible to take national and state/regional examinations for licensure which are required to practice dental hygiene. Employment opportunities include dental offices, clinics, schools, public health agencies, industry, and professional education.

DENTAL HYGIENE

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (DEN Prefix)		49
Related and General Education Courses including:		26
English/Oral Communications	7	
Humanities/Fine Arts	3	
Natural Science/Mathematics	11	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		75

			Hrs. Per Week			Credit
			Class	Lab	Clinic	Hrs.
First Semester (Fall)						
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	112	Dental Radiography	2	3	0	3
DEN	120	Dental Hygiene Preclinic Lecture	2	0	0	2
DEN	121	Dental Hygiene Preclinic Laboratory	0	6	0	2
BIO	168	Anatomy and Physiology I	3	3	0	4
			11	14	0	16
Second Semester (Spring)						
DEN	130	Dental Hygiene Theory I	2	0	0	2
DEN	131	Dental Hygiene Clinic I	0	0	9	3
DEN	191	Selected Topics in Dental Hygiene	0	2	0	1
DEN	223	Dental Pharmacology	2	0	0	2
BIO	169	Anatomy and Physiology II	3	3	0	4
ENG	111	Expository Writing	3	0	0	3
ENG	111A	Expository Writing Lab	0	2	0	1
SOC	240	Social Psychology	3	0	0	3
			13	7	9	19

Third Semester (Summer)						
DEN	140	Dental Hygiene Theory II	1	0	0	1
DEN	141	Dental Hygiene Clinic II	0	0	6	2
DEN	222	General and Oral Pathology	2	0	0	2
BIO	175	General Microbiology	2	2	0	3
CIS	111	Basic PC Literacy	1	2	0	2
			6	4	6	10
Fourth Semester (Fall)						
DEN	123	Nutrition/Dental Health	2	0	0	2
DEN	124	Periodontology	2	0	0	2
DEN	220	Dental Hygiene Theory III	2	0	0	2
DEN	221	Dental Hygiene Clinic III	0	0	12	4
DEN	224	Materials and Procedures	1	3	0	2
COM	231	Public Speaking	3	0	0	3
			10	3	12	15
Fifth Semester (Spring)						
DEN	230	Dental Hygiene Theory IV	1	0	0	1
DEN	231	Dental Hygiene Clinic IV	0	0	12	4
DEN	232	Community Dental Health	2	0	3	3
DEN	233	Professional Development	2	0	0	2
DEN	292	Selected Topics in Dental Hygiene	2	0	0	2
HUM	115	Critical Thinking	3	0	0	3
			10	0	15	15
		Program Totals	**50**	**28**	**42**	**75**

EARLY CHILDHOOD ASSOCIATE

This curriculum prepares individuals to work with children from infancy through early childhood in diverse learning environments. Students will combine learned theories with practice in actual settings with young children under the supervision of qualified teachers.

Course work includes childhood growth and development; physical/nutritional needs of children; care and guidance of children; and communication skills with parents and children. Students will foster the cognitive/language, physical/motor, social/emotional and creative development of young children.

Graduates are prepared to plan and implement developmentally appropriate programs in early childhood settings. Employment opportunities include child development and child care programs; preschools; public and private schools; recreational centers; Head Start Programs; and school age programs.

EARLY CHILDHOOD ASSOCIATE

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (EDU, COE Prefix)		54
Related and General Education		21
Courses including:		
English/Oral Communication	9	
Humanities/Fine Arts	3	
Natural Science/Mathematics	4	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		75

* *Professional Fundamentals Option*

** *Professional Business and Management Option*

		Hrs. Per Week			Credit
		Class	Lab	Clinic	Hrs.
First Semester (Fall)					
EDU 111	Early Childhood Credential I	2	0	0	2
EDU 112	Early Childhood Credential II	2	0	0	2
EDU 131	Child, Family, and Community	3	0	0	3
EDU 144	Child Development I	3	0	0	3
EDU 151	Creative Activities	3	0	0	3
EDU 151A	Creative Activities Lab	0	2	0	1
COM 231	Public Speaking	3	0	0	3
		16	2	0	17
Second Semester (Spring)					
EDU 145	Child Development II	3	0	0	3
EDU 153	Health, Safety, and Nutrition	3	0	0	3
EDU 153A	Health, Safety, and Nutrition Lab	0	2	0	1
COE 111EC	Coop Work Experience	0	0	10	1
COE 115EC	Work Experience Seminar	1	0	0	1
CIS 111	Basic PC Literacy	1	2	0	2
ENG 111	Expository Writing	3	0	0	3
PSY 118	Interpersonal Psychology	3	0	0	3
		14	4	10	17
Third Semester (Summer)					
EDU 251	Exploration Activities	3	0	0	3
EDU 251A	Exploration Activities Lab	0	2	0	1
BIO 143	Field Biology Minicourse	1	2	0	2
*PSY 150	General Psychology *(or **CIS 112)*	3	0	0	3
*SOC 213	Sociology of the Family *(or **ACC 120)*	3	0	0	3
		10*(8)*	4*(8)*	0	12

Fourth Semester (Fall)

EDU	146	Child Guidance	3	0	0	3
EDU	221	Children with Special Needs	3	0	0	3
EDU	280	Literacy Experiences	3	0	0	3
COE	121EC	Work Experience II	0	0	10	1
COE	125EC	Work Experience Seminar	1	0	0	1
BIO	226	Local Flora Fall	1	2	0	2
			11	2	10	13

Fifth Semester (Spring)

EDU	259	Curriculum Planning	3	0	0	3
EDU	261	Early Childhood Administration	2	0	0	2
COE	131EC	Work Experience III	0	0	10	1
COE	135EC	Work Experience Seminar III	1	0	0	1
ENG	114	Professional Research and Reporting	3	0	0	3
*PSY	243	Child Psychology *(or **BUS 110)*	3	0	0	3
		Humanities Elective	3	0	0	3
			15	0	10	16
		Program Totals	**66*(64)***	**12*(16)***	**30**	**75**

Total Credit Hours Required for Degree with the Professional Fundamentals Option or the Professional Business and Management Option: 75

Total Credit Hours Required for Certificate: 14

Required Courses for Certificate Program: EDU 111, EDU 112, EDU 151, EDU 151A, EDU 144, and EDU 146.

The certificate program is also offered in the evening schedule.

EMERGENCY MEDICAL SCIENCE

This curriculum is designed to prepare graduates to enter the workforce as paramedics. Additionally, the program can provide an Associate Degree for individuals desiring an opportunity for career enhancement.

The course of study provides the student an opportunity to acquire basic and advanced life support knowledge and skills by utilizing classroom instruction, practical laboratory sessions, hospital clinical experience, and field internships with emergency medical service agencies.

Students progressing through the program become eligible to apply for both state and national certification exams. Employment opportunities include ambulance services, fire and rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies.

EMERGENCY MEDICAL SCIENCE

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (EMS Prefix)		53
Related and General Education Courses including:		22
English/Oral Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	8	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		75

			Hrs. Per Week			Credit
			Class	Lab	Clinic	Hrs.
First Semester (Fall)						
EMS	110	EMT - Basic	5	3	0	6
EMS	111	Prehospital Environment	2	2	0	3
EMS	150	Vehicle Operations and EMS Communication	1	3	0	2
BIO	168	Anatomy and Physiology I	3	3	0	4
CIS	111	Basic PC Literacy	1	2	0	2
			12	13	0	17
Second Semester (Spring)						
EMS	120	Intermediate Interventions	2	3	0	3
EMS	121	EMS Clinical Practicum I	0	0	6	2
EMS	130	Pharmacology I for EMS	1	2	0	2
EMS	131	Advanced Airway Management	1	2	0	2
BIO	169	Anatomy and Physiology II	3	3	0	4
ENG	111	Expository Writing	3	0	0	3
			10	10	6	16
Third Semester (Summer)						
EMS	210	Advanced Patient Assessment	2	2	0	3
EMS	220	Cardiology	3	3	0	4
EMS	221	Clinical Practicum II	0	0	9	3
			5	5	9	10
Fourth Semester (Fall)						
EMS	140	Rescue Scene Management	1	6	0	3
EMS	231	Clinical Practicum III	0	0	9	3
EMS	250	Advanced Medical Emergencies	2	2	0	3
EMS	260	Advanced Trauma Emergencies	1	3	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
			10	11	9	17

Fifith Semester (Spring)

EMS	235	EMS Management	2	0	0	2
EMS	240	Behavioral Emergencies	2	0	0	2
EMS	241	Clinical Practicum IV	0	0	9	3
EMS	270	Life Span Emergencies	2	2	0	3
EMS	285	EMS Capstone	1	3	0	2
PHI	240	Introduction to Ethics	3	0	0	3
			10	5	9	15
		Program Totals	**47**	**44**	**33**	**75**

MEDICAL LABORATORY TECHNOLOGY

This curriculum prepares individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and immunohematology that may be used in the maintenance of health and diagnosis/treatment of disease.

Course work emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance, and reporting/recording and interpreting findings involving tissues, blood, and body fluids.

Graduates may be eligible to take examinations given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists or the National Certifying Agency. Employment opportunities include laboratories in hospitals, medical offices, industry and research facilities.

MEDICAL LABORATORY TECHNOLOGY

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (MLT, BIO, CHM Prefix)		56
Related and General Education		20
Courses including:		
English/Oral Communications	9	
Humanities/Fine Arts	3	
Natural Science/Mathematics	3	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		76

		Hrs. Per Week			Credit
		Class	Lab	Clinic	Hrs.
First Semester (Fall)					
MLT 110	Introduction to MLT	2	3	0	3
MLT 140	Introduction to Microbiology	2	3	0	3
BIO 163	Basic Anatomy and Physiology	4	2	0	5
CHM 130	General, Organic and Biochemistry	3	0	0	3
CHM 130A	General, Organic and Biochemistry Lab	0	2	0	1
ENG 111	Expository Writing	3	0	0	3
		14	10	0	18
Second Semester (Spring)					
MLT 120	Hematology/Hemostasis	3	3	0	4
MLT 126	Immunology and Serology	2	0	0	2
MLT 130	Clinical Chemistry	3	3	0	4
MLT 240	Special Clinical Microbiology	2	3	0	3
PHI 240	Introduction to Ethics	3	0	0	3
		13	9	0	16
Third Semester (Summer)					
MLT 111	Urinalysis and Body Fluids	1	3	0	2
MLT 127	Transfusion Medicine	2	3	0	3
MLT 252	MLT Practicum I	0	0	6	2
COM 231	Public Speaking	3	0	0	3
		6	6	6	10
Fourth Semester (Fall)					
MLT 254	MLT Practicum I (or MLT 210)	0	0	12	4
MLT 255	MLT Practicum I	0	0	15	5
MLT 261	MLT Practicum II	0	0	3	1
CIS 111	Basic PC Literacy	1	2	0	2
MAT 155	Statistical Analysis	3	0	0	3
		4	2	30	15
Fifth Semester (Spring)					
MLT 215	Professional Issues	1	0	0	1
MLT 265	MLT Practicum II	0	0	15	5
MLT 275	MLT Practicum III	0	0	15	5
ENG 114	Professional Research and Reporting	3	0	0	3
PSY 150	General Psychology	3	0	0	3
		7	0	30	17
	Program Totals	**44**	**27**	**66**	**76**

PHLEBOTOMY

This curriculum prepares individuals to obtain blood and other specimens for the purpose of laboratory analysis.

Course work includes proper specimen collection and handling, communication skills and maintaining patient data.

Graduates may qualify for employment in hospitals, clinics, physician's offices, and other health care settings, and may be eligible for national certification as phlebotomy technicians.

PHLEBOTOMY

Certificate

			Hrs. Per Week			Credit
			Class	Lab	Clinic	Hrs.
First Semester (Spring)						
PBT	100	Phlebotomy Technology	5	2	0	6
PBT	101	Phlebotomy Practicum	0	0	9	3
PSY	101	Applied Psychology (or PSY 118)	3	0	0	3
		Program Totals	**8**	**2**	**9**	**12**

PRACTICAL NURSING

This curriculum prepares individuals with the knowledge and skills to provide nursing care to children and adults.

Students will participate in assessment, planning, implementing, and evaluating nursing care.

Graduates of this program are eligible to take the National Council Licensure Examination (NCLEX-PN) which is required for practice as a Practical Nurse. Employment opportunities include hospitals, rehabilitation facilities, long term care facilities, clinics, physician's offices, and home health agencies.

PRACTICAL NURSING

Diploma

		Credit Hrs.
This program consists of:		
Major Courses (NUR, BIO Prefix)		41
Related and General Education Courses including:		6
English/Oral Communications	3	
Other	3	
PROGRAM TOTAL		47

			Hrs. Per Week			Credit
			Class	Lab	Clinic	Hrs.
First Semester (Fall)						
NUR	101	Practical Nursing I	7	6	6	11
BIO	163	Basic Anatomy and Physiology	4	2	0	5
PSY	110	Life Span Development	3	0	0	3
			14	8	6	19
Second Semester (Spring)						
NUR	102	Practical Nursing II	8	0	12	12
CIS	110	Introduction to Computers	2	2	0	3
			10	2	12	15

Third Semester (Summer)					
NUR 103	Practical Nursing III	6	0	12	10
ENG 102	Applied Communications II	3	0	0	3
		9	0	12	13
	Program Totals	**33**	**10**	**30**	**47**

PRACTICAL NURSING / ASSOCIATE DEGREE NURSING BRIDGE PROGRAM

		Credit Hrs.
This program consists of:		
Major Courses (NUR, BIO Prefix Courses)		52
Related and General Education Courses including:		23
English/Oral Communications	7	
Humanities/Fine Arts	3	
Natural Science/Mathematics	8	
Social Sciences	3	
Other	2	
PROGRAM TOTAL		75

		Hrs. Per Week			**Credit**
		Class	**Lab**	**Clinic**	**Hrs.**
Second Semester (Spring)					
NUR 189	Nursing Transition	1	3	0	2
SOC 215	Group Processes	3	0	0	3
	Humanities Elective	3	0	0	3
		7	3	0	8
Third Semester (Summer)					
NUR 185	Mental Health Nursing	3	0	6	5
NUR 188	Nursing in the Community	1	0	6	3
		4	0	12	8
Fourth Semester (Fall)					
*NUR 125	Maternal-Child Nursing	5	3	6	8
NUR 255	Professional Issues	3	0	0	3
ENG 114	Professional Research and Reporting	3	0	0	3
		11	3	6	14
Fifth Semester (Spring)					
*NUR 116	Nursing of Older Adults	2	3	3	4
NUR 235	Adult Nursing II	4	3	15	10
		6	6	18	14
	Program Totals	**28**	**12**	**36**	**44****

*Licensed Practical Nurses in the bridge program may receive credit for this course by examination if they can provide tangible evidence of directly related work experience and preparation to challenge.

Licensed Practical Nurses in the bridge program will receive credit for NUR 115 Fundamentals of Nursing, NUR 133 Nursing Assessment, and NUR 135 Adult Nursing I upon successful completion of NUR 189 Nursing Transition

Licensed Practical Nurses in the Bridge Program must complete all general** education courses required in the generic Associate Degree Nursing program prior to application deadline.These courses include: BIO 168, BIO 169, CIS 111, ENG 111, ENG 111-A.

**Licensed Practical Nurses completing BIO 168, BIO 169, CIS 111, ENG 111, ENG 111-A and receiving credit for NUR 115, NUR 133 and NUR 135 will have 31 credit hours applied toward their Associate Degree Program.

RADIOGRAPHY

The Radiography curriculum prepares the graduate to be a radiographer, a skilled health care professional who uses radiation to produce images of the human body.

Course work includes clinical rotations to area health care facilities, radiographic exposure, image processing, radiographic procedures, physics, pathology, patient care and management, radiation protection, quality assurance, anatomy, and physiology, and radiobiology.

Graduates of accredited programs are eligible to apply to take the American Registry of Radiologic Technologists national examination for certification and registration as medical radiographers. Graduates may be employed in hospitals, clinics, physicians' offices, medical laboratories, government agencies, and industry.

RADIOGRAPHY

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (RAD Prefix)		53
Related and General Education		23
Courses including:		
English/Oral Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	5	
Social Sciences	3	
Other	6	
PROGRAM TOTAL		76

		Hrs. Per Week			Credit
		Class	Lab	Clinic	Hrs.
First Semester (Fall)					
RAD 110	Radiography Introduction and Patient Care	2	3	0	3
RAD 111	RAD Procedures I	3	3	0	4
RAD 151	RAD Clinical Education I	0	0	6	2
RAD 182	RAD Clinical Elective	0	0	6	2
BIO 163	Basic Anatomy and Physiology	4	2	0	5
ENG 111	Expository Writing	3	0	0	3
		12	8	12	19
Second Semester (Spring)					
RAD 112	RAD Procedures II	3	3	0	4
RAD 121	Radiographic Imaging I	2	3	0	3
RAD 161	RAD Clinical Education II	0	0	15	5
CIS 110	Introduction to Computers	2	2	0	3
COM 231	Public Speaking	3	0	0	3
		10	8	15	18
Third Semester (Summer)					
RAD 122	Radiographic Imaging II	1	3	0	2
RAD 131	Radiographic Physics I	1	3	0	2
RAD 171	RAD Clinical Education III	0	0	12	4
		2	6	12	8
Fourth Semester (Fall)					
RAD 211	RAD Procedures III	2	3	0	3
RAD 231	Radiographic Physics II	1	3	0	2
RAD 241	Radiation Protection	2	0	0	2
RAD 251	RAD Clinical Education IV	0	0	21	7
PSY 118	Interpersonal Psychology	3	0	0	3
		8	6	21	17
Fifth Semester (Spring)					
RAD 245	Radiographic Analysis	2	3	0	3
RAD 261	RAD Clinical Education V	0	0	21	7
RAD 291	Selected Topics in Radiography	0	3	0	1
PHI 240	Introduction to Ethics	3	0	0	3
		5	6	21	14
Program Totals		**37**	**34**	**81**	**76**

SOCIAL SERVICES

The Human Services Technology/Social Services Concentration prepares students for direct service delivery work in social service agencies. The curriculum enables students to link theory and practice through interactive classroom activities developing a skill based academic foundation.

Course work includes the history of the social service movement, ethical issues, case management, diversity issues, law in the practice of social work, and community resources. Students also gain skills in interviewing and counseling techniques.

Graduates should qualify for employment with local, county, state, and federal government social service agencies. Employment includes family and child assistance, rehabilitation health services, medical assistance, youth services, aging, and developmentally disabled programs in public and private settings.

HUMAN SERVICES TECHNOLOGY - SOCIAL SERVICES

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (SWK, COE, HSE, SAB Prefix)		53
Related and General Education Courses Including:		17
English/Oral Communications	6	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	2	
PROGRAM TOTAL		70

		Hrs. Per Week Class	Lab	Work	Credit Hrs.
First Semester (Fall)					
SWK 115	Community Resources	2	2	0	3
HSE 110	Introduction to Human Services	2	2	0	3
CIS 111	Basic PC Literacy	1	2	0	2
ENG 111	Expository Writing	3	0	0	3
PSY 150	General Psychology	3	0	0	3
		11	6	0	14
Second Semester (Spring)					
SWK 110	Introduction to Social Work	3	0	0	3
SWK 113	Working with Diversity	3	0	0	3
HSE 112	Group Process I	1	2	0	2
MAT 115	Mathematical Models	2	2	0	3
SOC 210	Introduction to Sociology	3	0	0	3
		12	4	0	14
Third Semester (Summer)					
HSE 123	Interviewing Techniques	2	2	0	3
HSE 220	Casework Management	2	2	0	3
HSE 225	Crisis Intervention	3	0	0	3
ENG 114	Professional Research and Reporting	3	0	0	3
PSY 281	Abnormal Psychology	3	0	0	3
		13	4	0	15

Fourth Semester (Fall)

SWK 214	Social Work Law	3	0	0	3
COE 111SS	Co-op Work Experience I	0	0	10	1
COE 115SS	Work Experience Seminar I	1	0	0	1
HSE 125	Counseling	2	2	0	3
HUM 115	Critical Thinking	3	0	0	3
SOC 213	Sociology of the Family	3	0	0	3
		12	2	10	14

Fifth Semester (Spring)

SAB 110	Substance Abuse Overview	3	0	0	3
SWK 220	Social Work in Client Services	3	0	0	3
COE 121SS	Co-op Work Experience II	0	0	10	1
COE 125SS	Work Experience Seminar II	1	0	0	1
HSE 210	Human Services Issues	2	0	0	2
PSY 255	Introduction to Exceptionality	3	0	0	3
		12	0	10	13
	Program Totals	**60**	**16**	**20**	**70**

This program is also offered in the evening schedule. See Evening Programs listing.

Students in the Allied Dental Department receive hands-on training in the dental clinic.

BUSINESS AND HOSPITALITY EDUCATION

Meet a Current A-B Tech Student

Name	**Elizabeth K. Harris**
Major	Information Systems: Programming
Employment	Unit Secretary, Emergency Care Center, Memorial Mission Hospital
	"Initially, A-B Tech afforded me the opportunity to explore my interests. The incentive of certificate programs encouraged my continued course work. The advent of new and updated curricula motivates me to strive toward degrees in Information Systems and Programming. Student camaraderie, teacher support, and networking contacts have made A-B Tech the best place to continue my education."

BUSINESS AND HOSPITALITY EDUCATION

	Accounting*	Business Administration	Culinary Technology
Recommended High School Courses	Keyboarding Accounting English Business electives Algebra	Keyboarding Accounting Plus any other Business electives	Computer Applications Keyboarding Algebra English Nutrition Food Services
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall Can take single courses any semester	Day/Night Begins Fall Can take single courses any semester	Day only Begins Fall Can take single courses any semester
Degree	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
Employment Opportunities	Accountant Estimator Bookkeeper I	Purchasing Agent Sales Mgr. Gen'l Supervisor Operations Officer Loan Officer	Saute Chef Grill Chef Gardemanger Chef Soup/Sauce Chef Kitchen Mgr. Catering/Banquet Manager Dining Room Mgr. Food/Beverage Mgr. Purchasing Agent Steward Food, Beverage and Equipment Purveyor

*Tech Prep agreements with regional high schools.

Continued on next page

BUSINESS AND HOSPITALITY EDUCATION

	Hotel and Restaurant Management	Information Systems	Marketing and Retailing
Recommended High School Courses	Computer Applications Keyboarding Algebra Oral Comm. English Food Services Accounting	Keyboarding Computer Applications Algebra English	Keyboarding Accounting Plus any other Business electives
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).
Program Schedule	Day only Begins Fall Single courses any semester	Day/Night Begins Fall. Night begins in even years only Can take single courses any semester	Day/Night Begins Fall Can take single courses any semester
Degree	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
Employment Opportunities	Catering Mgr. Mgmt. Trainee Restaurant Mgr. Dir. of Food Services Reservations Manager Front Office Manager Country Club Manager Food/Beverage Manager	PC Support and Network Support	Assistant Manager Department Manager Sales Representative Salesperson Retail Buyer

BUSINESS AND HOSPITALITY EDUCATION

	Office Systems Technology*	Operations Management	Programming
Recommended High School Courses	Keyboarding Computer Applications Accounting Plus any other Business electives	Keyboarding Accounting Algebra Plus any other Business electives	Keyboarding Computer Applications Algebra English
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall (even years) Can take single courses any semester	Day/Night Begins Fall Can take single courses any semester	Day/Night Begins Fall. Night begins in even years only Can take single courses any semester
Degree	Associate in Applied Science or Diploma	Associate in Applied Science	Associate in Applied Science
Employment Opportunities	Admin. Asst. Office Mgr. Word Processor Info. Processing Specialist Administrative Support	Front Line Supervision Team Leadership Operations Planning Quality Assurance Manufacturing Management	Computer Operator Programmer

**Tech Prep agreements with regional high schools.*

BUSINESS AND HOSPITALITY EDUCATION

A.A.S. DEGREE CONFERRED

Accounting
Business Administration
Culinary Technology
Hotel and Restaurant Management
Information Systems
Marketing and Retailing
Office Systems Technology
Operations Management
Programming

All of the areas of study in the Division of Business and Hospitality Education are five semesters in duration and will require from twenty to thirty hours per week of course work. If a student elects to enroll in the Business and Hospitality Division through the Evening program, the time required for completion will be extended.

CERTIFICATE AWARDED

Real Estate
Real Estate Appraisal

DIPLOMA AWARDED

Office Systems Technology

BUSINESS AND HOSPITALITY EDUCATION PROGRAMS

The Business and Hospitality Education Division provides technical postsecondary education in the academic departments of Hospitality Education, Business Administration and Computer Technologies. Programs of study are specifically designed to provide students with necessary job skills to meet the personnel needs of local employers. All programs emphasize the mastery of analytical and technology-related skills. Business and Hospitality faculty work in partnership with local employers and program advisory committees to provide students with an appropriate foundation of theoretical and hands-on experiences. Both day and evening classes are available for most programs.

Objectives of Business and Hospitality Programs

The objectives of the Business and Hospitality Education Division are:

1. To provide students with the necessary skills to compete in local business or hospitality job markets while gaining an appreciation for global economic trends.

2. To provide students with a challenging and rigorous program of study emphasizing oral and written communication skills along with analytical, computational, and technological proficiency.
3. To provide an interactive partnership between students, employers and faculty through a variety of methods including cooperative work experiences, guest lecturers, field trips, and advisory committee input.
4. To invest in the human capital of Buncombe and Madison counties and contribute to the economic development of the business and hospitality community.

ACCOUNTING

The Accounting curriculum is designed to provide students with the knowledge and the skills necessary for employment and growth in the accounting profession. Using the "language of business," accountants assemble and analyze, process, and communicate essential information about financial operations.

In addition to course work in accounting principles, theories, and practice, students will study business law, finance, management, and economics. Related skills are developed through the study of communications, computer applications, financial analysis, critical thinking skills, and ethics.

Graduates should qualify for entry-level accounting positions in many types of organizations including accounting firms, small businesses, manufacturing firms, banks, hospitals, school systems, and governmental agencies. With work experience and additional education, an individual may advance in the accounting profession.

ACCOUNTING

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (ACC, BUS, ECO, MKT Prefix)		54
Related and General Education Courses		21
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Other	6	
PROGRAM TOTAL		75

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
ACC 120	Principles of Accounting I	3	2	4
CIS 110	Introduction to Computers	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 115	Mathematical Models	2	2	3
		10	6	13
Second Semester (Spring)				
ACC 121	Principles of Accounting II	3	2	4
BUS 137	Principles of Management	3	0	3
MKT 120	Principles of Marketing	3	0	3
ENG 114	Professional Research and Reporting	3	0	3
	Humanities Elective	3	0	3
		15	2	16
Third Semester (Summer)				
ACC 125	Mathematics of Finance	3	0	3
ACC 129	Individual Income Taxes	2	2	3
ACC 150	Computerized General Ledger	1	2	2
BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
		12	4	14
Fourth Semester (Fall)				
ACC 130	Business Income Taxes	2	2	3
ACC 220	Intermediate Accounting I	3	2	4
ACC 225	Cost Accounting	3	0	3
BUS 225	Business Finance	2	2	3
ECO 252	Principles of Macroeconomics	3	0	3
		13	6	16
Fifth Semester (Spring)				
ACC 221	Intermediate Accounting II	3	2	4
ACC 269	Auditing	3	0	3
BUS 147	Business Insurance	3	0	3
CIS 120	Spreadsheet I	2	2	3
COM 231	Public Speaking	3	0	3
		14	4	16
	Program Totals	**64**	**22**	**75**

This program is also offered in the evening schedule. See Evening Programs listing.

BUSINESS ADMINISTRATION

The Business Administration curriculum is designed to introduce students to the various aspects of the free enterprise system. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy.

Course work includes business concepts such as accounting, business law, economics, management, and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building, and decision making.

Through these skills, students will have a sound business education base for lifelong learning. Graduates are prepared for employment opportunities in government agencies, financial institutions, and large to small business or industry.

BUSINESS ADMINISTRATION

Associate in Applied Science

This Program Consists of:		Credit Hrs.
Major Courses (ACC, BUS, ECO, MKT Prefix)		52
Related and General Education Courses		23
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Other	8	
PROGRAM TOTAL		75

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
			13	6	16
Second Semester (Spring)					
ACC	121	Principles of Accounting II	3	2	4
BUS	137	Principles of Management	3	0	3
MKT	120	Principles of Marketing	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
OST	136	Word Processing	1	2	2
			13	4	15

Third Semester (Summer)

ACC	125	Mathematics of Finance	3	0	3
BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
		Humanities Elective	3	0	3
		Related Elective*	3	0	3
			15	0	15

Fourth Semester (Fall)

BUS	135	Principles of Supervision	3	0	3
BUS	225	Business Finance	2	2	3
CIS	120	Spreadsheet I	2	2	3
ECO	252	Principles of Macroeconomics	3	0	3
		Related Elective*	3	0	3
			13	4	15

Fifth Semester (Spring)

ACC	129	Individual Income Taxes	2	2	3
BUS	147	Business Insurance	3	0	3
BUS	230	Small Business Management	3	0	3
BUS	239	Business Applications Seminar I	1	2	2
COM	231	Public Speaking	3	0	3
			12	4	14
		Program Totals	**66**	**18**	**75**

* Approved Related Electives:

ACC	225	Cost Accounting	BUS	116	Business Law II
BUS	153	Human Resources Mgmt.	BUS	240	Business Ethics
BUS	260	Business Communication	BUS	270	Professional Development
MKT	123	Fundamentals of Selling	MKT	221	Consumer Behavior

This program is also offered in the evening schedule. See Evening Programs listing.

CULINARY TECHNOLOGY

The Culinary Technology curriculum provides specific training required to prepare students to assume positions as trained culinary professionals in a variety of food service settings including full service restaurants, hotels, resorts, clubs, catering operations, contract food service, and health care facilities.

Course offerings emphasizing practical application, a strong theoretical knowledge base, and professionalism, provide the critical competencies to successfully meet industry demands. Courses include sanitation, food/beverage service and control, baking, gardemanger, American/international cuisines, food production, and hospitality supervision.

Graduates should qualify for entry-level positions, such as line cook, station chef, and assistant pastry chef. American Culinary Federation certification is available to graduates. With experience, graduates may advance to positions such as sous chef, executive chef, or food service manager.

CULINARY TECHNOLOGY

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (CUL, COE, HRM, NUT Prefixed Courses)		58
Related and General Education Courses		18
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	3	
PROGRAM TOTAL		76

			Hrs. Per Week			Credit
			Class	**Lab**	**Work**	**Hrs.**
First Semester (Fall)						
CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	140	Basic Culinary Skills	2	6	0	5
CUL	150	Food Science	1	2	0	2
CUL	170	Gardemanger I	1	4	0	3
CIS	110	Introduction to Computers	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
			10	18	0	19
Second Semester (Spring)						
CUL	130	Menu Design	2	0	0	2
CUL	160	Baking I	1	4	0	3
CUL	240	Advanced Culinary Skills	1	8	0	5
HRM	220	Food and Beverage Controls	3	0	0	3
NUT	110	Nutrition	3	0	0	3
COM	231	Public Speaking	3	0	0	3
			13	12	0	19
Third Semester (Summer)						
COE	113CU	Co-op Work Experience	0	0	30	3
Fourth Semester (Fall)						
CUL	120	Purchasing	2	0	0	2
CUL	180	International/American Regional Cuisine	1	8	0	5
CUL	270	Gardemanger II	1	4	0	3
HRM	145	Hospitality Supervision	3	0	0	3
HRM	225	Beverage Management	2	0	0	2
ENG	111	Expository Writing	3	0	0	3
			12	12	0	18

Fifth Semester (Spring)

CUL	135	Food and Beverage Service	2	0	0	2
CUL	135A	Food and Beverage Service Lab	0	2	0	1
CUL	250	Classical Cuisine	1	8	0	5
CUL	260	Baking II	1	4	0	3
HUM	230	Leadership Development	3	0	0	3
PSY	118	Interpersonal Psychology	3	0	0	3
			10	14	0	17
		Program Totals	**45**	**56**	**30**	**76**

HOTEL AND RESTAURANT MANAGEMENT

The Hotel and Restaurant Management curriculum prepares students to understand and apply the administrative and practical skills needed for supervisory and managerial positions in hotels, motels, resorts, inns, restaurants, institutions, and clubs.

Course work includes front office management, food preparation, guest services, sanitation, menu writing, quality management, purchasing, and other areas critical to the success of hospitality professionals.

Upon completion, graduates should qualify for supervisory or entry-level management positions in food and lodging, including front office, reservations, housekeeping, purchasing, dining room, and marketing. Opportunities are also available in the support areas of food and equipment sales.

MOUNTAIN TECH LODGE

An on-campus motor lodge, Mountain Tech Lodge, operated and maintained by the Hotel and Restaurant Management students, provides practical experience under the direction of College faculty.

HOTEL AND RESTAURANT MANAGEMENT

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (HRM, ACC, COE, CUL Prefix)		58
Related and General Education Courses		18
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	3	
PROGRAM TOTAL		76

		Hrs. Per Week			Credit Hrs.
		Class	Lab	Work	
First Semester (Fall)					
CUL 110	Sanitation and Safety	2	0	0	2
CUL 135	Food and Beverage Service	2	0	0	2
CUL 140	Basic Culinary Skills	2	6	0	5
HRM 110	Introduction to Hospitality	2	0	0	2
CIS 110	Introduction to Computers	2	2	0	3
MAT 115	Mathematical Models	2	2	0	3
		12	10	0	17
Second Semester (Spring)					
HRM 115	Housekeeping	3	0	0	3
HRM 192	Selected Topics in Dining Room Management	1	2	0	2
HRM 193	Selected Topics in Procurement and Menu Management	2	2	0	3
HRM 220	Food and Beverage Controls	3	0	0	3
HRM 240	Hospitality Marketing	3	0	0	3
ACC 175	Hotel and Restaurant Accounting	3	2	0	4
		15	6	0	18
Third Semester (Summer)					
COE 114HR	Co-op Work Experience	0	0	40	4
COE 115HR	Work Experience Seminar I	1	0	0	1
		1	0	40	5
Fourth Semester (Fall)					
HRM 120	Front Office	3	0	0	3
HRM 120A	Front Office Lab	0	2	0	1
HRM 135	Facilities Management	2	0	0	2
HRM 145	Hospitality Supervision	3	0	0	3
HRM 215	Restaurant Management	3	0	0	3
HRM 215A	Restaurant Management Lab	0	2	0	1
HRM 225	Beverage Management	2	0	0	2
ENG 111	Expository Writing	3	0	0	3
		16	4	0	18
Fifth Semester (Spring)					
HRM 140	Hospitality Tourism Law	3	0	0	3
HRM 210	Meetings and Conventions	3	0	0	3
HRM 280	Hospitality Management Problems	3	0	0	3
COM 231	Public Speaking	3	0	0	3
HUM 230	Leadership Development	3	0	0	3
PSY 118	Interpersonal Psychology	3	0	0	3
		18	0	0	18
Program Totals		**62**	**20**	**40**	**76**

INFORMATION SYSTEMS

The Information Systems curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible program, designed to meet community information systems needs.

Course work includes computer systems terminology and operations, logic, operating systems, database, data communications/networking, and related business topics. Studies will provide experience for students to implement, support, and customize industry-standard information systems.

Graduates should qualify for a wide variety of computer-related, entry-level positions that provide opportunities for advancement with increasing experience and ongoing training. Duties may include systems maintenance and troubleshooting, support and training, and business applications design and implementation.

INFORMATION SYSTEMS

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (CIS, COE, NET, OST Prefix)		51
Related and General Education Courses		24
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	6	
PROGRAM TOTAL		75

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CIS	110	Introduction to Computers	2	2	3
ACC	120	Principles of Accounting I	3	2	4
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
PSY	150	General Psychology	3	0	3
			13	6	16
Second Semester (Spring)					
CIS	115	Introduction to Programming and Logic	2	2	3
CIS	130	Survey of Operating Systems	2	3	3
NET	110	Data Communications and Networking	2	2	3
OST	136	Word Processing	1	2	2
ACC	150	Computerized General Ledger	1	2	2
			8	11	13

Third Semester (Summer)

CIS	152	Database Concepts and Applications	2	2	3
CIS	165	Desktop Publishing I	2	2	3
NET	120	Network Installation and Administration I	2	2	3
COM	231	Public Speaking	3	0	3
		Humanities Elective	3	0	3
			12	6	15

Fourth Semester (Fall)

CIS	120	Spreadsheet I	2	2	3
CIS	157	Database Programming I	2	2	3
CIS	216	Software Installation and Maintenance	1	2	2
CIS	217	Computer Training and Support	2	2	3
CIS	286	Systems Analysis and Design	3	0	3
			10	8	14

Fifth Semester (Spring)

CIS	215	Hardware Installation and Maintenance	2	3	3
CIS	226	Trends in Technology	1	2	2
CIS	288	Systems Project	1	4	3
CIS	293	Selected Topics in Information Systems	2	2	3
ENG	114	Professional Research and Reporting	3	0	3
			9	11	14
		Program Totals	**55**	**42**	**75 ***

*The credit hours total includes a minimum of three (3) credit hours of Major electives to be selected from the following: CIS 148, CIS 244, CIS 245, CIS 246, COE 212 IS, CSC 138, CSC 143.

This program is also offered in the evening schedule. See Evening Programs listing.

MARKETING AND RETAILING

Marketing and Retailing is a concentration under the curriculum title of Business Administration. This curriculum is designed to provide students with fundamental skills in marketing and retailing.

Course work includes marketing, retailing, merchandising, selling, advertising, computer technology, and management.

Graduates should qualify for marketing positions within manufacturing, retailing, and service organizations.

MARKETING AND RETAILING

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (ACC, BUS, ECO, MKT Prefix)		56
Related and General Education Courses Including:		20
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Other	5	
PROGRAM TOTAL		76

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
			13	6	16
Second Semester (Spring)					
ACC	121	Principles of Accounting II	3	2	4
BUS	137	Principles of Management	3	0	3
MKT	120	Principles of Marketing	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
OST	136	Word Processing	1	2	2
			13	4	15
Third Semester (Summer)					
BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
MKT	122	Visual Merchandising	3	0	3
MKT	221	Consumer Behavior	3	0	3
		Related Elective*	3	0	3
			15	0	15
Fourth Semester (Fall)					
BUS	135	Principles of Supervision	3	0	3
ECO	252	Principles of Macroeconomics	3	0	3
MKT	123	Fundamentals of Selling	3	0	3
MKT	224	International Marketing	3	0	3
MKT	226	Retail Applications	3	0	3
			15	0	15

Fifth Semester (Spring)

BUS 147	Business Insurance	3	0	3
MKT 220	Advertising and Sales Promotion	3	0	3
MKT 225	Marketing Research	3	0	3
COM 231	Public Speaking	3	0	3
	Humanities Elective	3	0	3
		15	0	15
	Program Totals	**71**	**10**	**76**

* Approved Related Electives:

BUS 240	Business Ethics	BUS 260	Business Communication
BUS 270	Professional Development	MKT 121	Retailing

This program is also offered in the evening schedule. See Evening Programs listing.

OFFICE SYSTEMS TECHNOLOGY

The Office Systems Technology curriculum prepares individuals for positions in administrative support careers. It equips office professionals to respond to the demands of a dynamic computerized workplace. Students will complete courses designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on non-technical as well as technical skills.

Graduates should qualify for employment in a variety of positions in business, government, and industry. Job classifications range from entry-level to supervisor to middle management.

Credits toward the A.A.S. degree in Office Systems Technology may be given to persons holding the Certified Professional Seretary rating. If interested, those holding this certification should contact the Chairperson, Department of Computer Technologies. Persons interested in becoming a candidate for the certification can obtain information from the Institute for Certifying Secretaries, 2440 Pershing Road, Suite 6, 10 Crown Center, Kansas City, Missouri 64108.

OFFICE SYSTEMS TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (OST, CIS Prefix)		29
Related and General Education Courses		12
Including:		
Communications	6	
Other	6	
PROGRAM TOTAL		41

			Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)					
CIS	110	Introduction to Computers	2	2	3
OST	131	Keyboarding	1	2	2
OST	286	Professional Development	2	0	2
ACC	120	Principles of Accounting I	3	2	4
ENG	111	Expository Writing	3	0	3
			11	6	14
Second Semester (Spring)					
CIS	120	Spreadsheet I	2	2	3
OST	134	Text Entry and Formatting	3	2	4
OST	136	Word Processing	1	2	2
OST	164	Text Editing Applications	3	0	3
OST	184	Records Management	1	2	2
			10	8	14
Third Semester (Summer)					
OST	132	Keyboard Skill Building	1	2	2
OST	236	Advanced Word/Information Processing	2	2	3
OST	289	Office Systems Management	2	2	3
ACC	140	Payroll Accounting	1	2	2
COM	231	Public Speaking	3	0	3
			9	8	13
		Program Totals	**30**	**22**	**41**

NOTE: PSY 150, General Psychology, and MAT 115, Mathematical Models, are also required for the Office Systems Technology degree.

This program is also offered in the evening schedule. See the Evening Programs listing.

OFFICE SYSTEMS TECHNOLOGY

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (OST, CIS, COE, NET Prefix)		49
Related and General Education Courses		27
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	9	
PROGRAM TOTAL		76

			Hrs. Per Week			Credit
			Class	Lab	Work	Hrs.
First Semester (Fall)						
CIS	110	Introduction to Computers	2	2	0	3
OST	131	Keyboarding	1	2	0	2
OST	286	Professional Development	2	0	0	2
ACC	120	Principles of Accounting I	3	2	0	4
ENG	111	Expository Writing	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			14	6	0	17
Second Semester (Spring)						
CIS	120	Spreadsheet I	2	2	0	3
OST	134	Text Entry and Formatting	3	2	0	4
OST	136	Word Processing	1	2	0	2
OST	164	Text Editing Applications	3	0	0	3
OST	184	Records Management	1	2	0	2
MAT	115	Mathematical Models	2	2	0	3
			12	10	0	17
Third Semester (Summer)						
OST	132	Keyboard Skill Building	1	2	0	2
OST	236	Advanced Word/Information Processing	2	2	0	3
OST	289	Office Systems Management	2	2	0	3
ACC	140	Payroll Accounting	1	2	0	2
COM	231	Public Speaking	3	0	0	3
			9	8	0	13
Fourth Semester (Fall)						
CIS	165	Desktop Publishing I	2	2	0	3
OST	137	Office Software Applications	1	2	0	2
OST	192	Selected Topics in Office Systems Technology	2	0	0	2
OST	293	Selected Topics in Office Systems Technology	2	2	0	3
BUS	115	Business Law I	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
			13	6	0	16
Fifth Semester (Spring)						
COE	211OS*	Co-op Work Experience IV	0	0	10	1
COE	215OS*	Work Experience Seminar IV	1	0	0	1
OST	223	Machine Transcription I	1	2	0	2
OST	284	Emerging Technologies	2	0	0	2
OST	292	Selected Topics in Office Systems Technology	1	2	0	2
NET	115	Telecommunication Fundamentals	1	2	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
			9	6	10	13
		Program Totals	**57**	**36**	**10**	**76**

* In place of COE 211 OS and COE 215 OS, the student may select 2 semester

hours of course work from the following courses: ACC 121, ACC 129, ACC 150, BUS 110, BUS 116, BUS 135, BUS 137, BUS 153, BUS 230, CIS 130, CIS 152, CIS 215, CIS 216, CIS 217, ECO 151, NET 120.

OPERATIONS MANAGEMENT

Operations Management is a concentration under the curriculum title of Business Administration. This curriculum is designed to educate individuals in the technical and managerial aspects of operations for manufacturing and service industries.

Emphasized are analytical reasoning, problem solving, and continuous improvement concepts required in today's dynamic business and industry environments. Concepts include quality, productivity, organizational effectiveness, financial analysis, and the management of human, physical, and information resources.

Graduates should qualify for leadership positions or enhance their professional skills in supervision, team leadership, operations planning, quality assurance, manufacturing and service management, logistics/distribution, health and safety, human resources management, and inventory/materials management.

OPERATIONS MANAGEMENT

Associate in Applied Science Degree

This Program Consists of:		Credit Hrs.
Major Courses (ACC, BUS, ECO, ISC, MKT, OMT Prefix)		57
Related and General Education Courses		18
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Other	3	
PROGRAM TOTAL		75

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
ACC	120	Principles of Accounting I	3	2	4
BUS	135	Principles of Supervision	3	0	3
ISC	121	Environmental Health and Safety	3	0	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
			14	4	16

Second Semester (Spring)

ACC	121	Principles of Accounting II	3	2	4
BUS	137	Principles of Management	3	0	3
MKT	120	Principles of Marketing	3	0	3
CIS	110	Introduction to Computers	2	2	3
ENG	114	Professional Research and Reporting	3	0	3
			14	4	16

Third Semester (Summer)

BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
ISC	131	Quality Management	3	0	3
		Related Elective*	3	0	3
			12	0	12

Fourth Semester (Fall)

ACC	225	Cost Accounting	3	0	3
ECO	252	Principles of Macroeconomics	3	0	3
ISC	210	Operations and Production Planning	3	0	3
ISC	221	Statistical Quality Control	3	0	3
OMT	112	Materials Management	3	0	3
			15	0	15

Fifth Semester (Spring)

BUS	153	Human Resources Management	3	0	3
ISC	225	Facility Layout	3	2	4
OMT	260	Issues in Operations Management	3	0	3
COM	231	Public Speaking	3	0	3
		Humanities Elective	3	0	3
			15	2	16
		Program Totals	**70**	**10**	**75**

* Approved Related Electives:

BUS	116	Business Law II	BUS	240	Business Ethics
BUS	260	Business Communications	BUS	270	Professional Development

This program is also offered in the evening schedule. See Evening Programs listing.

PROGRAMMING

Programming is a concentration under the curriculum title of Information Systems. This curriculum prepares individuals for employment as computer programmers and related positions through study and applications in computer concepts, logic, programming procedures, languages, generators, operating systems, networking, data management, and business operations.

Students will solve business computer problems through programming techniques and procedures, using appropriate languages and software. The primary emphasis of the curriculum is hands-on training in programming and related computer areas that provide the ability to adapt as systems evolve.

Graduates should qualify for employment in business, industry, and government organizations as programmers, programmer trainees, programmer/analysts, software developers, computer operators, systems technicians, database specialists, software specialists, or information systems managers.

INFORMATION SYSTEMS—PROGRAMMING

Associate in Applied Science Degree

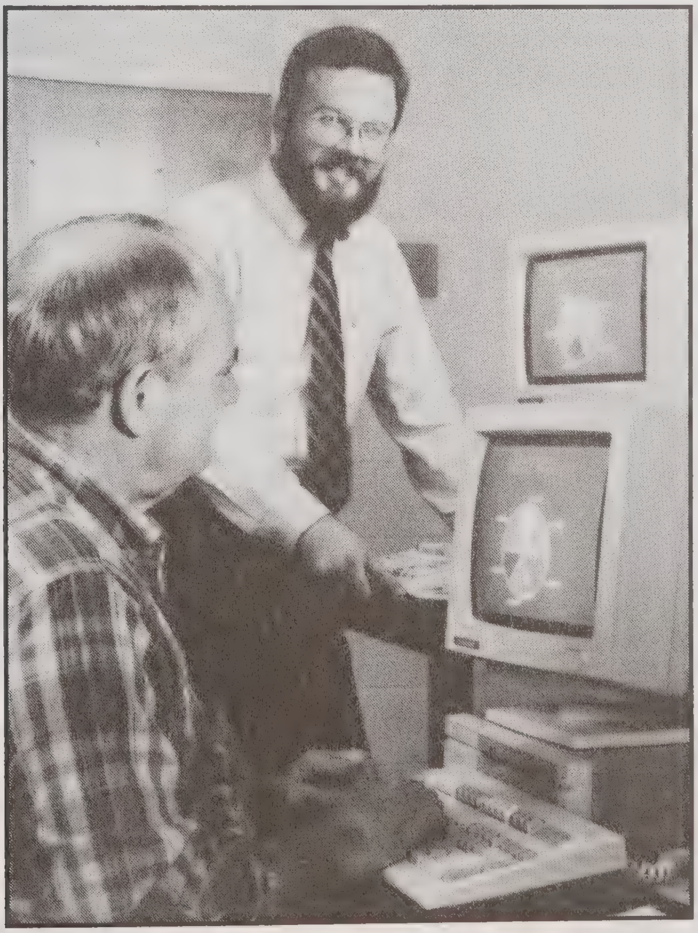
This Program Consists of:		Credit Hrs.
Major Courses (CIS, CSC, NET Prefix)		51
Related and General Education Courses		22
Including:		
Communications	9	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other	4	
PROGRAM TOTAL		73

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CIS	110	Introduction to Computers	2	2	3
ACC	120	Principles of Accounting I	3	2	4
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	3
		Humanities Elective	3	0	3
			13	6	16
Second Semester (Spring)					
CIS	115	Introduction to Programming and Logic	2	2	3
CIS	120	Spreadsheet I	2	2	3
CIS	130	Survey of Operating Systems	2	3	3
NET	110	Data Communications and Networking	2	2	3
COM	231	Public Speaking	3	0	3
			11	9	15
Third Semester (Summer)					
CSC	143	Object-Oriented Programming	2	3	3
NET	120	Network Installation ang Administration I	2	2	3
		Operating System Elective*	2	3	3
		Programming Elective*	2	3	3
			8	11	12

Fourth Semester (Fall)					
CIS	152	Database Concepts and Applications	2	2	3
CIS	286	Systems Analysis and Design	3	0	3
PSY	150	General Psychology	3	0	3
		Programming Elective*	2	3	3
		Advanced Programming Elective*	2	3	3
			12	8	15
Fifth Semester (Spring)					
CIS	157	Database Programming I	2	2	3
CIS	215	Hardware Installation and Maintenance	2	3	3
CIS	288	Systems Project	1	4	3
ENG	114	Professional Research and Reporting	3	0	3
		Advanced Programming Elective*	2	3	3
			10	12	15
		Program Totals	**54**	**46**	**73**

- * Programming Elective: Select two from CSC 134, CSC 135, CSC 138.
- * Advanced Programming Elective: Select two from CSC 234, CSC 235, CSC 238.
- * Operating Systems Elective: Select one from CIS 148, CIS 244, CIS 245, CIS 246.

This program is also offered in the evening schedule. See Evening Programs listing.



A-B Tech offers training in the latest hardware and software technology.

ENGINEERING AND APPLIED TECHNOLOGY

Meet a Current A-B Tech Student

Name	**Sherri Simpson**
Major	Mechanical Engineering Technology
Employment	Office Manager, Simpson Company
	"I chose A-B Tech because of its excellent reputation with the Asheville business community. The college promotes strong ties between its students and local business and industry leaders, assuring success after graduation."

ENGINEERING AND APPLIED TECHNOLOGY

	Air Conditioning, Heating, and Refrigeration Technology	Automotive Systems Technology*	CAD Systems Management
Recommended High School Courses	Electricity Electronics	Applied Mathematics Physics Electronics	Algebra Geometry Drafting
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Mathematics (2 units, including Algebra) Acceptable scores on SAT, ACT, or Reading Comprehension, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall Can take some single courses any semester.	Day/Night Begins Fall of even years and Spring of odd years	Day/Night Begins Fall Night Begins in odd numbered years only
Degree	Associate in Applied Science or Diploma	Associate in Applied Science or Diploma	Associate in Applied Science
Employment Opportunities	Maint. Tech. Climate Control Technician Service Tech. Systems Eng. Refrigeration Tech Estimator	General Automotive Technician Specialized Technician Shop Supervisor	Mech. Design Product Design Mfg. Design CAD Operator

*Tech Prep agreements with regional high schools.

Continued on next page

ENGINEERING AND APPLIED TECHNOLOGY

	Carpentry	Civil Engineering Technology	Electrical/ Electronics Technology
Recommended High School Courses	Practical Mathematics Drafting Woodworking Courses	Trigonometry Drafting	Trigonometry
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall	Day Begins Fall Night Begins in odd numbered years Can take single courses any semester	Night Begins Fall
Degree	A diploma is awarded.	Associate in Applied Science	Associate in Applied Science
Employment Opportunities	Contractors as Carpenters or Estimators In Cabinet Shop as Cabinetmakers or Installers	Construction Technician Materials Testing Technician Construction Inspector Engineering Tech.	Industrial Maint. Tech. Industrial Electrician Facilities Tech. Electrical License Apprentice

ENGINEERING AND APPLIED TECHNOLOGY

	Electronic Servicing Technology	Electronics Engineering Technology*	Machining Technology
Recommended High School Courses	Technical Math Algebra I	Trigonometry	Applied Mathematics Drafting or Blueprint Reading
A-B Tech Entrance Requirements	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).
Program Schedule	Night Begins Fall	Day/Night Begins Fall	Day/Night Begins Fall Will also offer afternoon schedule on demand.
Degree	A diploma is awarded.	Associate in Applied Science	Associate in Applied Science or Diploma
Employment Opportunities	Install and Service Computers, TV, Audio/Video, Entertainment, Digital Systems, VCR'S, CD Players, Cable Components and Systems	Special Projects Engineer Electronics Maint. Tech. Control Systems Technician	For Manufacturers as Machinist Machine or CNC Set-Up Operator Quality Control Technician

*Tech Prep agreements with regional high schools.

Continued on next page

ENGINEERING AND APPLIED TECHNOLOGY

	Mechanical Engineering Technology	Medium/Heavy Duty Vehicles Systems Technology	Surveying Technology
Recommended High School Courses	Trigonometry Physics	Applied Mathematics Electronics Electricity	Trigonometry Drafting
A-B Tech Entrance Requirements	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
Program Schedule	Day Begins Fall Night Begins in even numbered years Can take single courses any semester	Day Only Begins Fall	Day Begins Fall Night Begins in odd numbered years Can take single courses any semester
Degree	Associate in Applied Science	A diploma is awarded.	Associate in Applied Science
Employment Opportunities	Mfg. Engineer Quality Control Technician Mechanical Designer Maintenance Engineering Technician Controls Engineering Technician	Diesel Mech. Fuel Injection Servicer Repairer, Heavy Tractor Mech. Helper	Construction Layout Tech. Land Surveyor Mapping

ENGINEERING AND APPLIED TECHNOLOGY

	Tool, Die and Mold Making	Welding Technology
Recommended High School Courses	Applied Mathematics Geometry Trigonometry	Practical Arithmetic Blueprint Reading Drafting
A-B Tech Entrance Requirements	Successful Completion of the Machinist Program with grade of "B" or better in certain MAC and MAT courses	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall	Day/Night Begins Fall Can take single courses any semester
Degree	Associate in Applied Science	A diploma is awarded.
Employment Opportunities	Positions with Tool, Die, and Moldmaking Shops	Arc Welder Arc Welder-Mach. Operator Gas Welder-Mach. Operator Combination Welder Pipe Welder

**Tech Prep agreements with regional high schools.*

ENGINEERING AND APPLIED TECHNOLOGY

A.A.S. DEGREE CONFERRED

The following areas of study are included in Engineering and Applied Technology:

Air Conditioning, Heating, and Refrigeration Technology
Automotive Systems Technology
CAD Systems Management
Civil Engineering Technology
Electrical/Electronics Technology
Electronics Engineering Technology
Machining Technology
Mechanical Engineering Technology
Surveying Technology
Tool, Die, and Mold Making

DIPLOMA AWARDED

Air Conditioning, Heating, and Refrigeration Technology
Automotive Systems Technology
Carpentry
Electronic Servicing Technology
Machining Technology
Medium/Heavy Duty Vehicles Systems Technology
Welding Technology

The Engineering and Applied Technology division offers a variety of Associate in Applied Science degree programs in engineering technologies and diploma programs in applied technologies. Most programs are available on a day and evening basis.

Students enrolled in this division are provided an appropriate mix of theory and hands-on applications. Students in the diploma programs spend much of their time working under industrial shop conditions. Modern facilities include well-equipped laboratories and shops to support goals of the programs. Emphasis is placed on student proficiency in the use of procedures, equipment, and instruments related to the specific program area. Appropriate related and general education courses support these applied programs.

AIR CONDITIONING, HEATING AND REFRIGERATION TECHNOLOGY

The Air Conditioning, Heating, and Refrigeration Technology curriculum, provides the basic knowledge to develop skills necessary to work with residential and light commercial systems.

Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the A.A.S. degree covers residential building codes, residential system sizing, and advanced comfort systems.

Diploma graduates should be able to assist in the start up, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. AAS degree graduates should be able to demonstrate an understanding of system selection and balance, and advanced systems.

AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (AHR Prefix)		35
Related and General Education Courses		6
Including:		
Communications	3	
Natural Science/Mathematics	3	
PROGRAM TOTAL		41

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
AHR	111	HVACR Electricity	2	2	3
AHR	112	Heating	2	4	4
AHR	120	HVACR Maintenance	1	3	2
ELC	125	Diagrams and Schematics	1	2	2
ENG	102	Applied Communications II (or ENG 111)	3	0	3
WLD	112	Basic Welding	1	3	2
			10	14	16
Second Semester (Spring)					
AHR	110	Introduction to Refrigeration	2	6	5
AHR	113	Comfort Cooling	2	4	4
AHR	125	HVAC Electronics	1	3	2
AHR	130	HVAC Controls	2	2	3
MAT	101	Applied Mathematics I (or MAT 115)	2	2	3
			9	17	17
Third Semester (Summer)					
AHR	114	Heat Pump Technology	2	4	4
AHR	115	Refrigeration Systems	1	3	2
BPR	135	Schematics and Diagrams	2	0	2
			5	7	8
		Program Totals	**24**	**38**	**41**

This program is also offered in the evening schedule. See Evening Programs listing. The Associate in Applied Science Degree program may be taken in the evening upon completion of day or evening Diploma program.

AUTOMOTIVE SYSTEMS TECHNOLOGY

The Automotive Systems Technology curriculum prepares individuals for employment as Automotive Service Technicians. It provides an introduction to automotive careers and increases student awareness of the challenges associated with this fast and ever-changing field.

Classroom and lab experiences integrate technical and academic course work. Emphasis is placed on theory, servicing and operation of brakes, electrical/electronic systems, engine performance, steering/suspension, automatic transmission/transaxles, engine repair, climate control, and manual drive trains.

Upon completion of this curriculum, students should be prepared to take the ASE exam and be ready for full-time employment in dealerships and repair shops in the automotive service industry.

AUTOMOTIVE SYSTEMS TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (AUT, COE Prefix)		41
Related and General Education Courses		24
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	3	
Social Science	3	
Other	9	
PROGRAM TOTAL		65

			Hrs. Per Week Class	Lab	Work	Credit Hrs.
First Semester (Fall)						
AUT	110	Introduction to Automotive Technology	2	2		3
AUT	115	Engine Fundamentals	2	3		3
AUT	151	Brake Systems	2	2		3
AUT	152	Brake Systems Lab	0	2		1
AUT	161	Electrical Systems	2	6		4
ENG	111	Expository Writing	3	0		3
			11	15		17
Second Semester (Spring)						
AUT	162A	Chassis Electrical/Electronics	1	1		1.5
AUT	163A	Chassis Electrical/Electronics Lab	0	1		.5
AUT	183	Engine Performance Fuels	2	3		3
AUT	184	Engine Performance Fuels Lab	0	3		1
COE	113A1	Co-op Work Experience II	0	0	15	1.5
CIS	113	Computer Basics	0	2	__	1
			3	10	15	8.5

Third Semester (Summer)

COE 112A	Co-operative Work Experience	0	0	20	2

Fourth Semester (Fall)

AUT 162B	Chassis Electrical/Electronics	1	1		1.5
AUT 163B	Chassis Electrical/Electronics Lab	0	1		.5
AUT 171	Heating and Air Conditioning Systems	2	3		3
COE 113A2	Co-operative Work Experience	0	0	15	1.5
COM 231	Public Speaking	3	0		3
		6	5	15	9.5

Fifth Semester (Spring)

AUT 141A	Suspension and Steering Systems	1	2		2
AUT 181	Engine Performance Electrical	2	3		3
AUT 182	Engine Performance Electronics Lab	0	3		1
COE 123A1	Co-operative Work Experience	0	0	15	1.5
HUM 115	Critical Thinking	3	0		3
		6	8	15	10.5

Sixth Semester (Summer)

AUT 141B	Suspension and Steering Systems	1	2		2
AUT 231	Manual Drive Trans/Axles	2	3		3
AUT 232	Manual Drive Trans/Axles Lab	0	3		1
MAT 121	Algebra/Trigonometry I	2	2		3
		5	10		9

Seventh Semester (Fall)

AUT 221	Automotive Transmissions	2	6		4
COE 123A2	Co-operative Work Experience	0	0	15	1.5
SOC 215	Group Processes	3	0		3
		5	6	15	8.5
	Program Totals	**36**	**54**	**80**	**65**

CAD SYSTEMS MANAGEMENT

The primary objective of the CAD Systems Management curriciulum is to prepare individuals for employment as computer-aided drafting and design technicians. Graduates will be prepared for jobs that involve managing the engineering document process as well as the CAD system hardware and software.

Emphasis is placed on developing the student's ability to interface with computer hardware and software in an engineering design environment. Computer-aided Design systems will be used to create and manipulate 2D CAD drawings and 3D solid models. In addition, CAD drawing data will be linked to other applications such as data processing or CNC machining systems.

Coursework includes the study of technical drafting and design theory, computer hardware and operating systems, engineering document management, 2D and 3D computer-aided design, solid modeling, computer-aided manufacturing, rendering.

MECHANICAL DRAFTING TECHNOLOGY - CAD SYSTEMS MANAGEMENT

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (DFT, DDF Prefix)		36
Related and General Education Courses		40
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	6	
Social Science	3	
Other	22	
PROGRAM TOTAL		76

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
DFT	111	Technical DFT I	2	6	4
DFT	151	CAD I	2	3	3
CIS	110	Introduction to Computers	2	2	3
MAC	114	Introduction to Metrology	2	0	2
SOC	215	Group Processes	3	0	3
			11	11	15
Second Semester (Spring)					
DFT	112	Technical DFT II	2	6	4
DFT	152	CAD II	2	3	3
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	3
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes I	0	3	1
			12	14	17
Third Semester (Summer)					
DFT	121	Introduction to Geometric Dimensioning and Tolerancing	1	2	2
DFT	153	CAD III	2	3	3
CIS	120	Spreadsheet I	2	2	3
MAT	122	Algebra/Trigonometry II	2	2	3
			7	7	11
Fourth Semester (Fall)					
DDF	211	Design Drafting I	2	6	4
DFT	252	Solid Models and Rendering	2	2	3
COM	231	Public Speaking	3	0	3
HUM	115	Critical Thinking	3	0	3
		Elective*	2	3	3
			12	11	16

Fifth Semester (Spring)

DFT	251	Customizing CAD Software	2	2	3
DFT	253	CAD Data Management	2	2	3
CIS	152	Database Concepts and Applications	2	2	3
MEC	110	Introduction to CAD/CAM	1	2	3
			7	8	12

Sixth Semester (Summer)

DFT	259	CAD Project	1	4	3
		Elective**	1	2	2
			2	6	5
		Program Totals	**51**	**59**	**76**

Suggested Electives: *CIS 215, **NET 115

This program is also offered in the evening schedule. See Evening Programs listing.

CARPENTRY

The Carpentry curriculum is designed to train students to construct residential structures using standard building materials and hand and power tools. Carpentry skills and a general knowledge of residential construction will also be taught.

Course work includes footings and foundations, framing, interior and exterior trim, cabinetry, blueprint reading, residential planning and estimating, and other related topics. Students will develop skills through hands-on participation.

Graduates should qualify for employment in the residential building construction field as rough carpenters, framing carpenters, roofers, maintenance carpenters, and other related job titles.

CARPENTRY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (CAR, CAB Prefix)		34
Related and General Education Courses		12
Including:		
Communications	3	
Natural Science/Mathematics	3	
Other	6	
PROGRAM TOTAL		46

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CAR	111	Carpentry I	4	15	9
CAB	111A	Cabinet Making I	4	3	5
BPR	130	Blueprint Reading/Construction	1	2	2
MAT	101	Applied Mathematics I	2	2	3
			11	22	19
Second Semester (Spring)					
CAR	112	Carpentry II	4	15	9
CAR	115	Residential Planning/Estimating	3	0	3
CAB	111B	Cabinet Making I	0	6	2
ENG	102	Applied Communications II	3	0	3
			10	21	17
Third Semester (Summer)					
CAR	113	Carpentry III	3	9	6
DFT	115	Architectural Drafting	1	2	2
DFT	119	Basic CAD	1	2	2
			5	13	10
		Program Totals	**26**	**56**	**46**

This program is also offered in the evening schedule. See Evening Programs listing.

CIVIL ENGINEERING TECHNOLOGY

The Civil Engineering Technology curriculum provides the application of relevant theory of engineering needed by technicians to carry out planning and supervisory tasks in the construction of transportation systems, residential and commercial buildings, bridges, dams, and water and wastewater treatment systems.

Coursework includes the communication and computational skills required to support the fields such as materials testing, structures, estimating, project management, hydraulics, environmental technology, and surveying. Additional coursework will cover the operation of computers and application software including computer-aided drafting.

Graduates should qualify for technician level jobs with both public and private engineering, construction,and surveying agencies.

CIVIL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (CIV, SRV Prefix)		44
Related and General Education Courses		31
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	6	
Social Science	3	
Other	13	
PROGRAM TOTAL		75

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CIS	111	Basic Personal Computer Literacy	1	2	2
DFT	111	Technical Drafting I	2	6	4
EGR	115	Introduction to Engineering Technology	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I (or MAT 161 & 161A)	2	2	3
			10	16	16
Second Semester (Spring)					
CIV	110	Statics/Strength of Materials	2	6	4
SRV	110	Surveying I	2	6	4
DFT	151	CAD I	2	3	3
ENG	114	Professional Research and Reporting	3	0	3
MAT	122	Algebra/Trigonometry II (or MAT 162 & 162A)	2	2	3
			11	17	17
Third Semester (Summer)					
CIV	111	Soils and Foundations	2	3	3
CIV	125	Civil/Surveying CAD	1	6	3
SRV	111	Surveying II	2	6	4
			5	15	10
Fourth Semester (Fall)					
CIV	210	Engineering Materials	1	3	2
CIV	211	Hydraulics and Hydrology	2	3	3
CIV	215	Highway Technology	1	3	2
CIV	220	Basic Structural Concepts	1	3	2
CIV	230	Construction Estimating	2	3	3
SOC	215	Group Processes	3	0	3
			10	15	15

Fifth Semester (Spring)

CIV	212	Environmental Planning	2	3	3
CIV	221	Steel and Timber Design	2	3	3
CIV	222	Reinforced Concrete	2	3	3
CIV	240	Project Management	2	3	3
CIV	250	Civil Engineering Technology Project	1	3	2
HUM	115	Critical Thinking	3	0	3
			12	15	17
		Program Totals	**48**	**78**	**75**

This program is also offered in the evening schedule. See Evening Programs listing.

ELECTRONICS ENGINEERING TECHNOLOGY

The Electronic Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems. Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

ELECTRONICS ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (ELN, ELC Prefix)		39
Related and General Education Courses		28
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	10	
Social Science	3	
Other	6	
Electives		4
PROGRAM TOTAL		71

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
ELC	131	DC/AC Circuit Analysis	4	3	5
ELN	152	Fabrication Techniques	1	3	2
CIS	110	Introduction to Computing	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I (or MAT 161 & 161A)	2	2	3
			12	10	16
Second Semester (Spring)					
ELC	132	Electrical Drawings	1	3	2
ELN	131	Electronic Devices	3	3	4
DFT	151	CAD I	2	3	3
ENG	114	Professional Research and Report Writing	3	0	3
MAT	122	Algebra/Trigonometry II (or MAT 162 & 162A)	2	2	3
			11	11	15
Third Semester (Summer)					
ELC	117	Motors and Controls	2	6	4
ELN	132	Linear IC Applications	3	3	4
PHY	131	Physics-Mechanics (or PHY 151)	3	2	4
		Humanities Elective	3	0	3
			11	11	15
Fourth Semester (Fall)					
ELN	133	Digital Electronics	3	3	4
ELN	234	Communications Systems	3	3	4
ELN	260	Programmable Logic Controllers	3	3	4
ELN	275	Troubleshooting	1	2	2
			10	11	14
Fifth Semester (Spring)					
ELN	232	Introduction to Microprocessors	3	3	4
SOC	215	Group Processes	3	0	3
			6	3	7
		Program Totals	**50**	**46**	**71***

*The credit hours total includes a minimum of four (4) credit hours of major electives to be selected from the following: ATR 112, CIS 115, CIS 152, DFT 152, DFT 153, ELC 113, ELC 114, ELC 119, ELC 215, ELC 228, ELC 229, HYD 110, MAT 151, MAT 155, MEC 161 (with 161A), MEC 250, PHY 152.

This program is also offered in the evening schedule. See Evening Programs listing.

MACHINING TECHNOLOGY

The Machining Technology curriculum is designed to develop skills in the theory and safe use of hand tools, power machinery, computerized equipment and sophisticated precision inspection instruments.

Students will learn to interpret blueprints, set up manual and CNC machines, perform basic and advanced machining operations and make decisions to insure that work quality is maintained.

Employment opportunities for machining technicians exist in manufacturing industries, public institutions, governmental agencies and in a wide range of specialty machining job shops.

MACHINING TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (MAC Prefix)		26
Related and General Education Courses		16
Including:		
Communications	3	
Natural Science/Mathematics	4	
Social Science	3	
Other	6	
PROGRAM TOTAL		42

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
MAC 111	Machining Technology I	2	12	6
MAC 121	Introduction to CNC	2	0	2
MAC 151	Machining Calculations	1	2	2
BPR 111	Blueprint Reading I	1	2	2
SOC 215	Group Processes	3	0	3
		9	16	15
Second Semester (Spring)				
MAC 112	Machining Technology II	2	12	6
MAC 124	CNC Milling	1	3	2
BPR 121	Blueprint Reading II	1	2	2
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I	2	2	3
MEC 142	Physical Metallurgy	1	2	2
		10	21	18

Third Semester (Summer)				
MAC 113	Machining Technology III	2	12	6
MAC 152	Advanced Machining Calculations	1	2	2
		3	14	8
	Program Totals	**22**	**51**	**41**

This program is also offered in the evening schedule. See Evening Programs listing.

MECHANICAL ENGINEERING TECHNOLOGY

The Mechanical Engineering Technology curriculum prepares graduates for employment as mechanical technicians. Typical assignments would include assisting in the design, development, testing and repair of mechanical equipment. Emphasis is placed on the integration of theory and mechanical principles.

Coursework includes applied mechanics, manufacturing methods and processes, computer usage, computer-aided drafting, mathematics, physics, and oral and written communications. The courses will stress critical thinking, planning, and problem solving.

Graduates of the curriculum will find employment opportunities in the diversified branches of the mechanical field. Mechanical engineering technicians are employed in many types of manufacturing,
fabrication, research and development, and service industries.

MECHANICAL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (MEC Prefix)		30
Related and General Education Courses		46
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	10	
Social Science	3	
Other	24	
PROGRAM TOTAL		76

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
MEC	180	Engineering Materials	2	3	3
DFT	111	Technical Drafting I	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	161	College Algebra	3	0	3
MAT	161A	College Algebra Lab	0	2	1
SOC	215	Group Processes	3	0	3
			13	11	17
Second Semester (Spring)					
DFT	151	CAD I	2	3	3
ENG	114	Profession Research and Reporting	3	0	3
HYD	110	Hydraulics and Pneumatics	2	3	3
MAT	162	College Trigonometry	3	0	3
MAT	162A	College Trigonometry Lab	0	2	1
PHY	151	College Physics I	3	2	4
			13	10	17
Third Semester (Summer)					
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes I Lab	0	3	1
MEC	267	Thermal Systems	2	2	3
MAC	121	Introduction to CNC	2	0	2
			7	5	9
Fourth Semester (Fall)					
MEC	237	Control Systems	3	2	4
MEC	250	Statics and Strength of Materials	4	3	5
MEC	261	Manufacturing Processes II	2	4	4
ELC	111	Introduction to Electricity	2	2	3
ELC	128	Introduction to PLC	2	3	3
			13	14	19
Fifth Semester (Spring)					
MEC	270	Machine Design	3	3	4
MEC	275	Engineering Mechanisms	2	2	3
MEC	288	Manufacturing Engineering R & D Project	0	2	1
ATR	112	Introduction to Automation	2	3	3
		Humanities Elective	3	0	3
			10	10	14
		Program Totals	**56**	**50**	**76**

This program is also offered in the evening schedule. See Evening Programs listing.

MEDIUM/HEAVY DUTY VEHICLES SYSTEMS TECHNOLOGY

The Medium/Heavy Duty Vehicles Systems Technology curriculum is designed to prepare individuals with the knowledge and skills needed to service, troubleshoot, and repair medium and heavy duty vehicles.

The course work includes the purpose, construction features, and principles of operation of medium and heavy duty vehicles.

Graduates of the curriculum should qualify for entry level employment opportunities in a dealership, fleet shop, or independent garage as a technician. Graduates that have met the work experience requirement should also be prepared to take the ASE certification exam.

MEDIUM/HEAVY DUTY VEHICLES SYSTEMS TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (DIE Prefix)		29
Related and General Education Courses		11
Including:		
Communications	3	
Natural Science/Mathematics	3	
Other	5	
PROGRAM TOTAL		40

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
DIE	110	Engines	3	9	6
DIE	118	Mechanical Orientation	2	0	2
DIE	125	Preventative Maintenance	1	3	2
HYD	112	Hydraulics Medium/Heavy Duty	1	2	2
MAT	101	Applied Mathematics I	2	2	3
			9	16	15
Second Semester (Spring)					
DIE	112	Diesel Electrical System	3	6	5
DIE	115	Electronic Engines	2	3	3
DIE	119	Mechanical Transmissions	2	2	3
ENG	102	Applied Communications II	3	0	3
WLD	112	Basic Welding Processes	1	3	2
			11	14	16
Third Semester (Summer)					
DIE	116	A/C/Diesel Equipment	1	2	2
DIE	231	Medium Heavy Duty Brake Systems	1	3	2
DIE	233	Suspension and Steering	2	4	4
CIS	113	Computer Basics	0	2	1
			4	11	9
		Program Totals	**24**	**41**	**40**

SURVEYING TECHNOLOGY

The Surveying Technology curriculum provides training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, construction surveying, photogrammetry, mapping, global positioning systems, geographical information systems, and other areas of property description and measurements.

Course work includes the communication and computational skills required for boundary, construction, route, and control surveying, photogrammetry, topography, drainage, surveying law, and subdivision design, with emphasis upon applications of electronic data collection and related software including CAD.

SURVEYING TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (CIV, SRV Prefix)		43
Related and General Education Courses		33
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	6	
Social Science	3	
Other	15	
PROGRAM TOTAL		67

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
EGR	115	Introduction to Engineering Technology	2	6	4
ENG	111	Expository Writing	3	0	3
CIS	111	Basic Personal Computer Literacy	1	2	2
MAT	121	Algebra/Trigonometry I (or MAT 161 & 161A)	2	2	3
			8	10	12
Second Semester (Spring)					
CIV	110	Statics/Strength of Materials	2	6	4
SRV	110	Surveying I	2	6	4
ENG	114	Professional Research and Reporting	3	0	3
MAT	122	Algebra/Trigonometry II (or MAT 162 & 162A)	2	2	3
			9	14	14
Third Semester (Summer)					
CIV	111	Soils and Foundations	2	3	3
CIV	125	Civil/Surveying CAD	1	6	3
SRV	111	Surveying II	2	6	4
			5	15	10

Fourth Semester (Fall)					
CIV	211	Hydraulics and Hydrology	2	3	3
CIV	215	Highway Technology	1	3	2
SRV	210	Surveying III	2	6	4
SRV	240	Topographic/Site Surveying	2	6	4
SOC	215	Group Processes	3	0	3
			10	18	16
Fifth Semester (Spring)					
SRV	220	Surveying Law	2	2	3
SRV	230	Subdivision Planning	1	6	3
SRV	250	Advanced Surveying	2	6	4
SRV	260	Field and Office Practices	1	3	2
HUM	115	Critical Thinking	3	0	3
			9	17	15
		Program Totals	**41**	**74**	**67**

This program is also offered in the evening schedule. See Evening Programs listing.

TOOL, DIE, AND MOLD MAKING

Tool, Die, and Mold Making is a concentration under the curriculum title of Machining Technology. This curriculum is designed to develop skills in the use of hand tools, computerized equipment and precision instruments for machine tooling used for the mass production of parts.

Students will learn to interpret blueprints, setup manual and CNC machines, perform basic and advanced machining operations. Emphasis will be placed on the production of tooling used for punching, stamping, and molding of parts.

Graduates should qualify for employment opportunities in manufacturing industries and Tool, Die, and Mold making industries.

MACHINING TECHNOLOGY - TOOL, DIE, AND MOLD MAKING

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (MAC Prefix)		55
Related and General Education Courses		21
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	3	
Social Science	3	
Other	6	
PROGRAM TOTAL		76

		Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)				
MAC 111	Machining Technology I	2	12	6
MAC 121	Introduction to CNC	2	0	2
MAC 151	Machining Calculations	1	2	2
BPR 111	Blueprint Reading I	1	2	2
SOC 215	Group Processes	3	0	3
		9	16	15
Second Semester (Spring)				
MAC 112	Machining Technology II	2	12	6
MAC 124	CNC Milling	1	3	2
BPR 121	Blueprint Reading II	1	2	2
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I	2	2	3
MEC 142	Physical Metallurgy	1	2	2
		10	21	18
Third Semester (Summer)				
MAC 113	Machining Technology III	2	12	6
MAC 152	Advanced Machining Calculations	1	2	2
		3	14	8
Fourth Semester (Fall)				
MAC 153	Compound Angles	1	2	2
MAC 226	CNC EDM Machining	1	3	2
MAC 243	Die Making I	2	6	4
MEC 141	Introduction to Manufacturing Processes	2	2	3
HUM 115	Critical Thinking	3	0	3
		9	13	14
Fifth Semester (Spring)				
MAC 244	Die Making II	1	9	4
MAC 245	Mold Construction I	2	6	4
BPR 123	Die/Mold Print Reading	1	3	2
COM 231	Public Speaking	3	0	3
		7	18	13
Sixth Semester (Summer)				
MAC 241	Jigs and Fixtures I	2	6	4
MAC 246	Mold Construction II	1	9	4
		3	15	8
Program Totals		**41**	**97**	**76**

This program is also offered in the evening schedule. See Evening Programs listing.

WELDING TECHNOLOGY

The Welding Technology curriculum provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metal industry. Instruction includes consumable and non-consumable electrode welding and cutting processes.

Courses in math, blueprint reading, metallurgy, welding inspection, and destructive and non-destructive testing provides the student with industry-standard skills developed through classroom training and practical application.

Successful graduates of the Welding Technology curriculum may be employed as entry level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

WELDING TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (WLD Prefix)		32
Related and General Education Courses		6
Including:		
Communications	3	
Natural Science/Mathematics	3	
PROGRAM TOTAL		38

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
WLD 110	Cutting Processes	1	3	2
WLD 115	Shielded Metal Arc Welding (stick) Plate	2	9	5
WLD 121	Gas Metal Arc Welding (MIG) FCAW/plate	2	6	4
WLD 141	Symbols and Specifications	2	2	3
MAT 101	Applied Mathematics I	2	2	3
		9	22	17
Second Semester (Spring)				
WLD 116	Shielded Metal Arc Welding (stick) Plate/Pipe	1	9	4
WLD 122	Gas Metal Arc Welding (MIG) Plate/pipe	1	6	3
WLD 131	Gas Tungsten Arc Welding (TIG) Plate	2	6	4
ENG 102	Applied Communications II	3	0	3
		7	21	14
Third Semester (Summer)				
WLD 132	Gas Tungsten Arc Welding (TIG) Plate/Pipe	1	6	3
WLD 151	Fabrication I (or WLD 215)	2	6	4
		3	12	7
	Program Totals	**19**	**55**	**38**

This program is also offered in the evening schedule. See Evening Programs listing.

ARTS & SCIENCES PROGRAMS

Meet a Current A-B Tech Student

Name	**Donae Cascio**
Major	Associate in Arts
Employment	Waitress/Hostess, Southside Cafe
	"I enjoy attending A-B Tech because of the student-instructor ratio and the availability of the instructors to the students. A-B Tech also offers help outside the classroom. The dedicated instructors in the math lab have been invaluable to me."

ARTS & SCIENCES PROGRAMS

	College Transfer		General Occupational Technology
	Associate in Arts	Associate in Science	
Recommended High School Courses	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.
A-B Tech Entrance Requirements	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
Program Schedule	Day/Night Begins Fall Can take single courses any semester	Day/Night Begins Fall Can take single courses any semester	Day/Night Begins Fall Can take single courses any semester
Degree	Associate in Arts	Associate in Science	Associate in Applied Science
Employment Opportunities	Transfer at junior level to four-year institutions	Transfer at junior level to four-year institutions	General Technology Careers

Precurriculum Requirements for the

ASSOCIATE IN ARTS (A.A.) DEGREE
ASSOCIATE IN SCIENCE (A.S.) DEGREE
GENERAL OCCUPATIONAL TECHNOLOGY (A.A.S.)

Day Program Model of Semester Course Sequence +

Applicants with low placement scores and/or lack of high school prerequisites will complete precurriculum work in the Guided Studies department. One to three semesters of preparation may be required in mathematics, English and/or reading. The level at which students enter Guided Studies is determined by scores on the placement test. A student requiring the maximum number of Guided Studies courses could complete all prerequisites in three semesters in the day program.

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Summer)					
MAT	060	Essential Mathematics	3	2	4
Second Semester (Fall)					
BIO	094**	Concepts of Human Biology	3	2	4
ENG	080	Writing Foundations	3	2	4
MAT	070*	Introductory Algebra	3	2	4
RED	080	Introduction to College Reading	3	2	4
			12	8	16
Third Semester (Spring)					
ENG	090	Composition Strategies	3	0	3
ENG	090A	Composition Strategies Lab	0	2	1
MAT	080	Intermediate Algebra	3	2	4
RED	090	Improved College Reading	3	2	4
			9	6	12

+ Selection of beginning course work may vary.

* Students who have passed Algebra I with a C or better and who score between 35.1 and 70.0 on the Elementary Algebra portion of the CPT, may take the fast track Accelerated Algebra, MAT 090, in place of MAT 070-MAT 080 with permission of counselors.

**Recommended for students who did not take high school biology and intend to take college-level biology sequence.

Once students complete requirements in the above areas, they may enroll in curriculum level courses.

Curriculum Requirements for the
ASSOCIATE IN ARTS (A.A.) DEGREE

Semester Hours

GENERAL EDUCATION CORE REQUIREMENTS **44**

English/Communications 18

English Composition 6
ENG 111 and 113 are required

Speech and Communications 3
COM 231 is required

Humanities/Fine Arts 9

1) Three courses must be selected from at least three disciplines in this category.
2) At least one course must be a literature course.
3) Speech/Communication may not substitute for the literature requirement.

Courses must be selected from music, art, drama, dance, foreign languages, interdisciplinary humanities, literature, philosophy, and religion.

Social/Behavioral Sciences 12

1) Four courses must be selected from at least three disciplines in this category.
2) At least one course must be a history course.

Courses must be selected from anthropology, economics, geography, history, political science, psychology, and sociology.

Natural Science/Mathematics 14

Natural Sciences 8
Select two courses, including accompanying laboratory work, from among the biological and physical science disciplines.

Mathematics 6
MAT 161 is required. Select another course from among other quantitative subjects.

OTHER REQUIRED HOURS **20**

Computing 3
CIS 110 is required

MAT 161A 1

Health/Physical Education 3
HEA 110 or PED 110 plus any PED activity course are required.

Remaining semester hours 13
Must include additional General Educatiion and professional courses that have been approved for transfer.

Total Semester Hours **64**

All college transfer courses submitted for graduation require a minimum grade of "C."

ASSOCIATE IN ARTS DEGREE

Day Program Model of Semester Course Sequence*

		Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)				
CIS 110	Introduction to Computers	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 161/161A	College Algebra	3	2	4
	Science Course I	3	3	4
	Social/Behavioral Sciences Course	3	0	3
		14	7	17
Second Semester (Spring)				
ENG 113	Literature-Based Research	3	0	3
MAT	Mathematics Elective	3	2	4
	Humanities/Fine Arts Course	3	0	3
	Science Course II	3	3	4
	Social/Behavioral Sciences Course	3	0	3
		15	5	17
Third Semester (Fall)				
COM 231	Public Speaking	3	0	3
	History Requirement for Social/Behavioral Sciences Course	3	0	3
	Humanities/Fine Arts Course	3	0	3
	Elective	3	0	3
	Elective	3	0	3
		15	0	15
Fourth Semester (Spring)				
ENG	Literature Requirement for Humanities/Fine Arts	3	0	3
	Social/Behavioral Sciences Course	3	0	3
	Elective	3	0	3
	Elective	3	0	3
	Elective	3	0	3
		15	0	15
	Program Totals	**59**	**12**	**64**

Health/Physical Education courses may be selected any semester.

Foreign Language courses may be selected in a sequence that meets the requirements of the receiving universities.

*Course sequence and hours may vary depending on courses selected.

This program is also offered in the evening schedule. See Evening Programs listing.

Curriculum Requirements for the
ASSOCIATE IN SCIENCE (A.S.) DEGREE

Semester Hours

GENERAL EDUCATION CORE REQUIREMENTS 46

English/Communications **18**

English Composition 6

ENG 111 and 113 are required

Speech and Communications 3

COM 231 is required

Humanities/Fine Arts 9

1) Three courses must be selected from at least three disciplines in this category.
2) At least one course must be a literature course.
3) Speech/Communication may not substitute for the literature requirement.

Courses must be selected from music, art, drama, dance, foreign languages, interdisciplinary humanities, literature, philosophy, and religion.

Social/Behavioral Sciences **12**

1) Four courses must be selected from at least three disciplines in this category.
2) At least one course must be a history course.

Courses must be selected from anthropology, economics, geography, history, political science, psychology, and sociology.

Natural Science/Mathematics **16**

Natural Sciences 8

Select first science sequence, including accompanying laboratory work, from among the biological and physical science disciplines.

Mathematics 8

MAT 271 and 272 are required.

OTHER REQUIRED HOURS 18

Computing 3

CIS 110 is required

Health/Physical Education 3

HEA 110 or PED 110 plus any PED activity course are required.

Mathematics 4

Four other semester hours may be selected from among other quantitative subjects.

Natural Sciences 8

A second science sequence is required, including laboratory work, selected from the biological and physical science disciplines.

Total Semester Hours 64

All college transfer courses submitted for graduation require a minimum grade of "C."

ASSOCIATE IN SCIENCE DEGREE

Day Program Model of Semester Course Sequence*

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	175	Precalculus	4	0	4
		First Science Sequence - Course I	3	3	4
		Social/Behavioral Sciences Course	3	0	3
			15	5	17
Second Semester (Spring)					
ENG	113	Literature-Based Research	3	0	3
MAT	271	Calculus I	3	2	4
		First Science Sequence - Course II	3	3	4
		Humanities/Fine Arts Course	3	0	3
		Social/Behavioral Sciences Course	3	0	3
			15	5	17
Third Semester (Fall)					
COM	231	Public Speaking	3	0	3
MAT	272	Calculus II	3	2	4
		History Requirement for Social/Behavioral Sciences	3	0	3
		Humanities/Fine Arts Course	3	0	3
		Second Science Sequence - Course I	3	3	4
			15	5	17
Fourth Semester (Spring)					
ENG		Literature Requirement for Humanities/Fine Arts	3	0	3
MAT	273	Calculus III (Elective)	3	2	4
		Second Science Sequence - Course II	3	3	4
		Social/Behavioral Sciences Course	3	0	3
			12	5	14
		Program Totals	**57**	**20**	**65**

Health/Physical Education courses may be selected any semester.

Foreign Language courses may be selected in a sequence that meets the requirements of the receiving universities.

*Course sequence and hours may vary depending on courses selected.

This program is also offered in the evening schedule. See Evening Programs listing.

GENERAL OCCUPATIONAL TECHNOLOGY

The General Occupational Technology Associate in Applied Science program is designed as a career mobility program wherein students may acquire the general education and related courses in subject areas such as humanities, communications, social sciences, and in theoretical and applied sciences such as biology, chemistry, physics, mathematics, and general computer studies. Upon completion of this degree curriculum, the student will have attained job skills for occupations requiring communications skills and/or science and mathematics. The student should select a course of study that best suits his/her occupational goals.

GENERAL OCCUPATIONAL TECHNOLOGY

Associate in Applied Science Degree

This program consists of:		Credit Hrs.
Major Courses (See List)		49
Related and General Education Courses Including:		15
English/Oral Communications	6	
Humanities/Fine Arts	3	
Natural Sciences/Mathematics	3	
Social Science	3	
Other		1
PROGRAM TOTAL		65

		Hrs. Per Week Class	Lab	Credit Hrs.
General Education				
COM 231	Public Speaking	3	0	3
ENG 111	Expository Writing	3	0	3
HUM 115	Critical Thinking	3	0	3
MAT 115	Mathematical Models (or MAT 161 or155)	2	2	3
SOC 215	Group Processes (or SOC 225)	3	0	3
		14	2	15
Major Hours*				
BIO 168	Anatomy and Physiology I	3	3	4
BIO 169	Anatomy and Physiology II	3	3	4
CIS 111	Basic PC Literacy (or CIS 110)	1	2	2
ECO 251	Principles of Micro-Economics	3	0	3
OST 131	Keyboarding	1	2	2
PSY 150	General Psychology	3	0	3
		14	10	18

Other Major Hours* 31

Must be from curriculum programs offered by A-B Tech.

Must be from the following Prefixes:

ACC, AHR, ATR, AUT, BIO, BPR, BUS, CHM, CIS, CIV, CJC, COE, CUL, DDF, DEN, DFT, ECO, EDU, EGR, ELC, EMS, ENG, HRM, HSE, HUM, HYD, ISC, MAC, MAT, MEC, MKT, MLT, NET, NUR, NUT, OMT, OST, PED, PHI, PHY, PSY, RAD, REA, RLS, SAB, SOC, SUR, SWK

Other Required Hours*

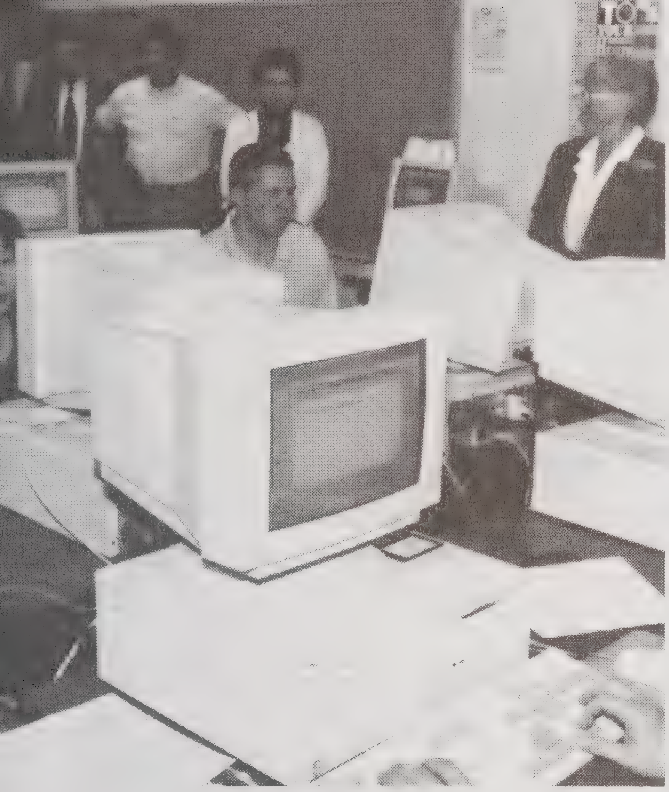
ACA	120	Career Assessment	1	0	1

Program Totals 65

* All courses in these lists must have a minimum grade of "C."

This program is also offered in the evening schedule. See Evening Programs listing.

Students enjoy the academic atmosphere at A-B Tech.



Evening Programs

Asheville-Buncombe Technical
Community College

EVENING PROGRAMS IN ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

BASIC LAW ENFORCEMENT TRAINING

Certificate Program

	Credit Hrs.
This program consists of:	
One Major Course	18

			Hrs. Per Week Class	Lab	Credit Hrs.
CJC	100	Basic Law Enforcement Training	9	27	18

CRIMINAL JUSTICE TECHNOLOGY

Associate in Applied Science Degree

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
CJC	111	Introduction to Criminal Justice	3	0	3
CJC	121	Law Enforcement Operations	3	0	3
CJC	231	Constitutional Law	3	0	3
CIS	111	Basic PC Literacy	1	2	2
			10	2	11
Second Semester (Spring)					
CJC	112	Criminology	3	0	3
CJC	132	Court Procedure and Evidence	3	0	3
CJC	151	Introduction to Loss Prevention	3	0	3
ENG	111	Expository Writing	3	0	3
			12	0	12
Third Semester (Summer)					
CJC	131	Criminal Law	3	0	3
CJC	211	Counseling	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
			9	0	9
Fourth Semester (Fall)					
CJC	113	Juvenile Justice	3	0	3
CJC	114	Investigative Photography	1	2	2
CJC	221	Investigative Principles	3	2	4
			7	4	9

Fifth Semester (Spring)				
CJC 122	Community Policing	3	0	3
CJC 213	Substance Abuse	3	0	3
MAT 115	Mathematical Models (or MAT 161)	2	2	3
PED 110	Fit and Well for Life	1	2	2
		9	4	11
Sixth Semester (Summer)				
CJC 214	Victimology	3	0	3
CJC 222	Criminalistics	3	0	3
HUM 115	Critical Thinking	3	0	3
		9	0	9
Seventh Semester (Fall)				
CJC 215	Organization and Administration	3	0	3
COM 231	Public Speaking	3	0	3
SOC 225	Social Diversity	3	0	3
		9	0	9
Eighth Semester (Spring)				
CJC 212	Ethics and Community Relations	3	0	3
CJC 232	Civil Liability	3	0	3
		6	0	6
	Program Totals	**71**	**10**	**76**

SOCIAL SERVICES

Associate in Applied Science Degree

		Hrs. Per Week Class	Lab	Exp.	Credit Hrs.
First Semester (Fall)					
SWK 115	Community Resources	2	2	0	3
CIS 111	Basic PC Literacy	1	2	0	2
HSE 110	Introduction to Human Services	2	2	0	3
PSY 150	General Psychology	3	0	0	3
		8	6	0	11
Second Semester (Spring)					
SWK 110	Introduction to Social Work	3	0	0	3
HSE 112	Group Process I	1	2	0	2
ENG 111	Expository Writing	3	0	0	3
SOC 210	Introduction to Sociology	3	0	0	3
		10	2	0	11
Third Semester (Summer)					
SWK 113	Working with Diversity	3	0	0	3
HUM 115	Critical Thinking	3	0	0	3
		6	0	0	6
Fourth Semester (Fall)					
HSE 123	Interviewing Techniques	2	2	0	3
PSY 281	Abnormal Psychology	3	0	0	3
SOC 213	Sociology of the Family	3	0	0	3
		8	2	0	9

Fifth Semester (Spring)					
SWK 220	Social Work in Client Services	3	0	0	3
HSE 225	Crisis Intervention	3	0	0	3
MAT 115	Mathematical Models	2	2	0	3
		8	2	0	9
Sixth Semester (Summer)					
HSE 125	Counseling	2	2	0	3
HSE 220	Casework Management	2	2	0	3
		4	4	0	6
Seventh Semester (Fall)					
SAB 110	Substance Abuse Overview	3	0	0	3
ENG 114	Professional Research and Reporting	3	0	0	3
PSY 255	Introduction to Exceptionality	3	0	0	3
		9	0	0	9
Eighth Semester (Spring)					
*COE 111SS	Co-op Work Experience I	0	0	10	1
*COE 115SS	Work Experience Seminar I	1	0	0	1
HSE 210	Human Services Issues	2	0	0	2
		3	0	10	4
Ninth Semester (Summer)					
SWK 214	Social Work Law	3	0	0	3
*COE 121SS	Co-op Work Experience II	0	0	10	1
*COE 125SS	Work Experience Seminar II	1	0	0	1
		4	0	10	5
	Program Totals	**60**	**16**	**20**	**70**

*COE courses must be taken during the day schedule.

EVENING PROGRAMS IN BUSINESS AND HOSPITALITY EDUCATION

ACCOUNTING

Associate in Applied Science

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
ACC 120	Principles of Accounting I	3	2	4
ENG 111	Expository Writing	3	0	3
		6	2	7
Second Semester (Spring)				
ACC 121	Principles of Accounting II	3	2	4
CIS 110	Introduction to Computers	2	2	3
MAT 115	Mathematical Models	2	2	3
		7	6	10
Third Semester (Summer)				
BUS 137	Principles of Management	3	0	3
ENG 114	Professional Research and Reporting	3	0	3
	Humanities Elective	3	0	3
		9	0	9
Fourth Semester (Fall)				
ACC 129	Individual Income Taxes	2	2	3
BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
MKT 120	Principles of Marketing	3	0	3
		11	2	12
Fifth Semester (Spring)				
ACC 125	Mathematics of Finance	3	0	3
ACC 130	Business Income Taxes	2	2	3
ECO 252	Principles of Macroeconomics	3	0	3
CIS 120	Spreadsheet I	2	2	3
		10	4	12
Sixth Semester (Summer)				
ACC 150	Computerized General Ledger	1	2	2
BUS 225	Business Finance	2	2	3
		3	4	5
Seventh Semester (Fall)				
ACC 220	Intermediate Accounting I	3	2	4
ACC 225	Cost Accounting	3	0	3
BUS 147	Business Insurance	3	0	3
		9	2	10

Eighth Semester (Spring)				
ACC 221	Intermediate Accounting II	3	2	4
ACC 269	Auditing	3	0	3
COM 231	Public Speaking	3	0	3
		9	2	10
	Program Totals	**64**	**22**	**75**

BUSINESS ADMINISTRATION

Associate in Applied Science

		Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)				
ACC 120	Principles of Accounting I	3	2	4
BUS 110	Introduction to Business	3	0	3
ENG 111	Expository Writing	3	0	3
		9	2	10
Second Semester (Spring)				
ACC 121	Principles of Accounting II	3	2	4
CIS 110	Introduction to Computers	2	2	3
MAT 115	Mathematical Models	2	2	3
		7	6	10
Third Semester (Summer)				
BUS 137	Principles of Management	3	0	3
ENG 114	Professional Research and Reporting	3	0	3
OST 136	Word Processing	1	2	2
		7	2	8
Fourth Semester (Fall)				
BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
MKT 120	Principles of Marketing	3	0	3
	Humanities Elective	3	0	3
		12	0	12
Fifth Semester (Spring)				
ACC 125	Mathematics of Finance	3	0	3
BUS 135	Principles of Supervision	3	0	3
ECO 252	Principles of Macroeconomics	3	0	3
CIS 120	Spreadsheet I	2	2	3
		11	2	12
Sixth Semester (Summer)				
ACC 129	Individual Income Taxes	2	2	3
BUS 225	Business Finance	2	2	3
		4	4	6
Seventh Semester (Fall)				
BUS 147	Business Insurance	3	0	3
BUS 230	Small Business Management	3	0	3
	Related Elective*	3	0	3
		9	0	9

Eighth Semester (Spring)

BUS 239	Business Applications Seminar I	1	2	2
COM 231	Public Speaking	3	0	3
	Related Elective*	3	0	3
		7	2	8
	Program Totals	**66**	**18**	**75**

* Approved Related Electives:

BUS 116	Business Law II	BUS 153	Human Resources Mgmt
BUS 240	Business Ethics	BUS 260	Business Communication
BUS 270	Professional Development	ACC 225	Cost Accounting
MKT 123	Fundamentals of Selling	MKT 221	Consumer Behavior

INFORMATION SYSTEMS

Associate in Applied Science Degree

(Begins only in even years)

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
CIS 110	Introduction to Computers	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 115	Mathematical Models	2	2	3
		7	4	9
Second Semester (Spring)				
CIS 115	Introduction to Programming and Logic	2	2	3
NET 110	Data Communications and Networking	2	2	3
ACC 120	Principles of Accounting I	3	2	4
		7	6	10
Third Semester (Summer)				
NET 120	Network Installation and Administration I	2	2	3
ACC 150	Computerized General Ledger	1	2	2
		3	4	5
Fourth Semester (Fall)				
CIS 120	Spreadsheet I	2	2	3
CIS 130	Survey of Operating Systems	2	3	3
OST 136	Word Processing	1	2	2
		5	7	8
Fifth Semester (Spring)				
CIS 152	Database Concepts and Applications	2	2	3
CIS 165	Desktop Publishing I	2	2	3
PSY 150	General Psychology	3	0	3
		7	4	9

Sixth Semester (Summer)					
CIS	157	Database Programming I	2	2	3
CIS	216	Software Installation and Maintenance	1	2	2
		Humanities Elective	3	0	3
			6	4	8
Seventh Semester (Fall)					
CIS	215	Hardware Installation and Maintenance	2	3	3
CIS	217	Computer Training and Support	2	2	3
CIS	226	Trends in Technology	1	2	2
			5	7	8
Eighth Semester (Spring)					
CIS	286	Systems Analysis and Design	3	0	3
CIS	293	Selected Topics in Information Systems	2	2	3
COM	231	Public Speaking	3	0	3
			8	2	9
Ninth Semester (Summer)					
CIS	288	Systems Project	1	4	3
ENG	114	Professional Research and Reporting	3	0	3
			4	4	6
		Program Totals	**55**	**42**	**75 ***

*The credit hours total includes a minimum of three (3) credit hours of Major electives to be selected from the following courses: CIS 148, CIS 244, CIS 245, CIS 246, COE 212 IS, CSC 138, CSC 143.

MARKETING AND RETAILING

Associate in Applied Science Degree

			Hrs. Per Week		**Credit**
			Class	**Lab**	**Hrs.**
First Semester (Fall)					
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
ENG	111	Expository Writing	3	0	3
			9	2	10
Second Semester (Spring)					
ACC	121	Principles of Accounting II	3	2	4
CIS	110	Introduction to Computers	2	2	3
MAT	115	Mathematical Models	2	2	3
			7	6	10
Third Semester (Summer)					
BUS	137	Principles of Management	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
OST	136	Word Processing	1	2	2
			7	2	8

Fourth Semester (Fall)				
BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
MKT 120	Principles of Marketing	3	0	3
	Humanities Elective	3	0	3
		12	0	12
Fifth Semester (Spring)				
BUS 135	Principles of Supervision	3	0	3
ECO 252	Principles of Macroeconomics	3	0	3
MKT 220	Advertising and Sales Promotion	3	0	3
MKT 226	Retail Applications	3	0	3
		12	0	12
Sixth Semester (Summer)				
MKT 122	Visual Merchandising	3	0	3
MKT 221	Consumer Behavior	3	0	3
		6	0	6
Seventh Semester (Fall)				
BUS 147	Business Insurance	3	0	3
MKT 123	Fundamentals of Selling	3	0	3
	Related Elective*	3	0	3
		9	0	9
Eighth Semester (Spring)				
MKT 224	International Marketing	3	0	3
MKT 225	Marketing Research	3	0	3
COM 231	Public Speaking	3	0	3
		9	0	9
	Program Totals	**71**	**10**	**76**

* Approved Related Electives:

BUS 240	Business Ethics	BUS 260	Business Communication
BUS 270	Professional Development	MKT 121	Retailing

OFFICE SYSTEMS TECHNOLOGY

Diploma

(Begins only in even years)

Credits toward the A.A.S. degree in Office Systems Technology may be given to persons holding the Certified Professional Seretary rating. If interested, those holding this certification should contact the Chairperson, Department of Computer Technologies. Persons interested in becoming a candidate for the certification can obtain information from the Institute for Certifying Secretaries, 2440 Pershing Road, Suite 6, 10 Crown Center, Kansas City, Missouri 64108.

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
CIS 110	Introduction to Computers	2	2	3
OST 131	Keyboarding	1	2	2
ENG 111	Expository Writing	3	0	3
		6	4	8
Second Semester (Spring)				
OST 134	Text Entry and Formatting	3	2	4
ACC 120	Principles of Accounting I	3	2	4
		6	4	8
Third Semester (Summer)				
OST 132	Keyboard Skill Building	1	2	2
OST 136	Word Processing	1	2	2
OST 184	Records Management	1	2	2
ACC 140	Payroll Accounting	1	2	2
		4	8	8
Fourth Semester (Fall)				
CIS 120	Spreadsheet I	2	2	3
OST 164	Text Editing Applications	3	0	3
OST 236	Advanced Word/Information Processing	2	2	3
		7	4	9
Fifth Semester (Spring)				
OST 286	Professional Development	2	0	2
OST 289	Office Systems Management	2	2	3
COM 231	Public Speaking	3	0	3
		7	2	8
	Program Totals	**30**	**22**	**41**

NOTE: PSY 150, General Psychology, and MAT 115, Mathematical Models, are also required along with additional courses if the Office Systems Technology degree is sought. The degree program is only offered in the day.

OPERATIONS MANAGEMENT

Associate in Applied Science Degree

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
ACC 120	Principles of Accounting I	3	2	4
BUS 135	Principles of Supervision	3	0	3
ENG 111	Expository Writing	3	0	3
		9	2	10

Second Semester (Spring)					
ACC	121	Principles of Accounting II	3	2	4
CIS	110	Introduction to Computers	2	2	3
MAT	115	Mathematical Models	2	2	3
			7	6	10
Third Semester (Summer)					
BUS	137	Principles of Management	3	0	3
ISC	131	Quality Management	3	0	3
ENG	114	Professional Research and Reporting	3	0	3
			9	0	9
Fourth Semester (Fall)					
BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
MKT	120	Principles of Marketing	3	0	3
			9	0	9
Fifth Semester (Spring)					
ACC	225	Cost Accounting	3	0	3
ECO	252	Principles of Macroeconomics	3	0	3
		Related Elective*	3	0	3
			9	0	9
Sixth Semester (Summer)					
ISC	121	Environmental Health and Safety	3	0	3
ISC	210	Operations and Production Planning	3	0	3
OMT	112	Materials Management	3	0	3
			9	0	9
Seventh Semester (Fall)					
BUS	153	Human Resources Management	3	0	3
ISC	221	Statistical Quality Control	3	0	3
ISC	225	Facility Layout	3	2	4
			9	2	10
Eighth Semester (Spring)					
OMT	260	Issues in Operations Management	3	0	3
COM	231	Public Speaking	3	0	3
		Humanities Elective	3	0	3
			9	0	9
		Program Totals	**70**	**10**	**75**

* Approved Related Electives:

BUS	116	Business Law II	BUS	240	Business Ethics
BUS	260	Business Communication	BUS	270	Professional Development

PROGRAMMING

Associate in Applied Science Degree

(Begins only in even years)

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	3
			7	4	9
Second Semester (Spring)					
CIS	115	Introduction to Programming and Logic	2	2	3
NET	110	Data Communications and Networking	2	2	3
ACC	120	Principles of Accounting I	3	2	4
			7	6	10
Third Semester (Summer)					
CIS	120	Spreadsheet I	2	2	3
CIS	130	Survey of Operating Systems	2	3	3
NET	120	Network Installation and Administration I	2	2	3
			6	7	9
Fourth Semester (Fall)					
CSC	143	Object-Oriented Programming	2	3	3
		Programming Elective*	2	3	3
			4	6	6
Fifth Semester (Spring)					
CIS	152	Database Concepts and Applications	2	2	3
PSY	150	General Psychology	3	0	3
		Advanced Programming Elective*	2	3	3
			7	5	9
Sixth Semester (Summer)					
CIS	157	Database Programming I	2	2	3
		Operating System Elective*	2	3	3
			4	5	6
Seventh Semester (Fall)					
CIS	215	Hardware Installation and Maintenance	2	3	3
		Programming Elective*	2	3	3
			4	6	6
Eighth Semester (Spring)					
CIS	286	Systems Analysis and Design	3	0	3
COM	231	Public Speaking	3	0	3
		Advanced Programming Elective*	2	3	3
			8	3	9

Ninth Semester (Summer)

CIS	288	Systems Project	1	4	3
ENG	114	Professional Research and Reporting	3	0	3
		Humanities Elective	3	0	3
			7	4	9
		Program Totals	**54**	**46**	**73**

- * Programming Elective: Select two from CSC 134, CSC 135, CSC 138.
- * Advanced Programming Elective: Select two from CSC 234, CSC 235, CSC 238.
- * Operating Systems Elective: Select one from CIS 148, CIS 244, CIS 245, CIS 246.

REAL ESTATE

The Real Estate curriculum provides the prelicensing education required by the North Carolina Real Estate Commission, prepares individuals to enter the profession, and offers additional education to meet professional development needs.

Course work includes the practices and principles of real estate, emphasizing financial and legal applications, property development, and property values.

Graduates should qualify for North Carolina Real Estate and Broker examinations. They should be able to enter apprenticeship training and to provide real estate services to consumers in a competent manner.

REAL ESTATE

Certificate

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
RLS	112	Real Estate Fundmentals	4	0	4
RLS	113	Real Estate Mathematics	2	0	2
			6	0	6
Second Semester (Spring)					
RLS	114	Real Estate Brokerage	2	0	2
RLS	115	Real Estate Finance	2	0	2
RLS	116	Real Estate Law	2	0	2
			6	0	6
		Program Totals	**12**	**0**	**12**

Note: RLS 114, 115, and 116 will be offered in an eight week mini-mester during second semester.

REAL ESTATE APPRAISAL

The Real Estate Appraisal curriculum is designed to prepare individuals to enter the appraisal profession as a registered trainee and advance to licensed or certified appraiser levels.

Course work includes appraisal theory and concepts with applications, the North Carolina Appraisal Board rules, and the Uniform Standards of Professional Appraisal Practice.

Graduates should be prepared to complete the North Carolina Registered Trainee Examinations and advance to licensure or certification levels as requirements are met.

REAL ESTATE APPRAISAL

Certificate

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
REA 101	Introduction to Real Estate Appraisal R-1	2	0	2
REA 102	Valuation Principles and Practices R-2	2	0	2
		4	0	4
Second Semester (Spring)				
REA 103	Applied Residential Property Valuation R-3	2	0	2
REA 201	Introduction to Income Property Appraisal G-1	2	0	2
		4	0	4
Third Semester (Fall)				
REA 202	Advanced Income Capitalization Procedures G-2	2	0	2
REA 203	Applied Income Property Valuation G-3	2	0	2
		4	0	4
	Program Totals	**12**	**0**	**12**

Note: Each course will be offered in an eight week mini-mester format. Courses must be taken in sequence.

EVENING PROGRAMS IN ENGINEERING AND APPLIED TECHNOLOGY

AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

Diploma

		Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)				
AHR 111	HVACR Electricity	2	2	3
AHR 112	Heating Technology	2	4	4
WLD 112	Basic Welding Processes	1	3	2
		5	9	9
Second Semester (Spring)				
AHR 120	HVACR Maintenance	1	3	2
AHR 130	HVAC Controls	2	2	3
ENG 102	Applied Communnications II (or ENG 111)	3	0	3
ELC 125	Diagrams and Schematics	1	2	2
		7	7	10
Thrd Semester (Summer)				
AHR 110	Introduction to Refrigeration	2	6	5
Fourth Semester (Fall)				
AHR 113	Comfort Cooling	2	4	4
AHR 125	HVAC Electronics	1	3	2
BPR 135	Schematics and Diagrams	2	0	2
		5	7	8
Fifth Semester (Spring)				
AHR 115	Refrigeration Systems	1	3	2
MAT 101	Applied Mathematics I (or MAT 115)	2	2	3
		3	5	5
Sixth Semester (Summer)				
AHR 114	Heat Pump Technology	2	4	4
	Program Totals	**24**	**38**	**41**

AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (AHR Prefix)		50
Related and General Ed. Courses		21
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	3	
Social Science	3	
Other	6	
PROGRAM TOTAL		71

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
AHR 111	HVACR Electricity	2	2	3
AHR 112	Heating Technology	2	4	4
WLD 112	Basic Welding Processes	1	3	2
		5	9	9
Second Semester (Spring)				
AHR 120	HVACR Maintenance	1	3	2
AHR 130	HVAC Controls	2	2	3
ENG 111	Expository Writing	3	0	3
ELC 125	Diagrams and Schematics	1	2	2
		7	7	10
Thrd Semester (Summer)				
AHR 110	Introduction to Refrigeration	2	6	5
Fourth Semester (Fall)				
AHR 113	Comfort Cooling	2	4	4
AHR 125	HVAC Electronics	1	3	2
BPR 135	Schematics and Diagrams	2	0	2
		5	7	8
Fifth Semester (Spring)				
AHR 115	Refrigeration Systems	1	3	2
MAT 115	Mathematical Models	2	2	3
		3	5	5
Sixth Semester (Summer)				
AHR 114	Heat Pump Technology	2	4	4

Seventh Semester (Fall)

AHR 151	HVAC Duct Systems I	1	3	2
AHR 211	Residential Systems Design	2	2	3
AHR 215	Commercial HVAC Controls	1	3	2
		4	8	7

Eighth Semester (Spring)

AHR 210	Residential Building Code-HVAC	1	2	2
AHR 245	Chiller Systems	1	3	2
* COM 231	Public Speaking	3	0	3
		5	5	7

Ninth Semester (Summer)

AHR 247	Atypical Systems	1	3	2
HUM 115	Critical Thinking	3	0	3
		4	3	5

Tenth Semester (Fall)

AHR 240	Hydronic Heating	1	3	2
SOC 215	Group Processes	3	0	3
		4	3	5

Eleventh Semester (Spring)

AHR 212	Advanced Comfort Systems	2	6	4
AHR 255	Indoor Air Quality	1	2	2
		3	8	6

Program Totals	**44**	**65**	**71**

The Associate in Applied Science Degree program may be taken upon completion of the day or evening Diploma Program.

AUTOMOTIVE SYSTEMS TECHNOLOGY

Diploma*

		Credit Hrs.
This Program Consists of:		
Major Courses (AUT, COE Prefix)		30
Related and General Education Courses		6
Including:		
Communications	3	
Natural Science/Mathematics	3	
PROGRAM TOTAL		36

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
AUT	115	Engine Fundamentals	2	3	3
* ENG	102	Applied Communications II (or ENG 111)	3	0	3
MAT	101	Applied Mathematics I (or MAT 121)	2	2	3
			7	5	9
Second Semester (Spring)					
AUT	161	Electrical Systems	2	6	4
AUT	171	Heating and Air Conditioning	2	3	3
			4	9	7
Third Semester (Summer)					
AUT	183	Engine Performance - Fuel	2	3	3
AUT	184	Engine Performance - Fuel Lab	0	3	1
			2	6	4
Fourth Semester (Fall)					
AUT	151	Brakes	2	2	3
AUT	152	Brake Systems Lab	0	2	1
AUT	181	Engine Performance - Electrical	2	3	3
AUT	182	Engine Performance - Electrical Lab	0	3	1
			4	10	8
Fifth Semester (Spring)					
AUT	141	Suspension and Steering	2	4	4
Sixth Semester (Summer)					
AUT	113	Automotive Servicing	2	6	4
		Program Totals	**21**	**40**	**36**

*Students may take Cooperative Work Experience, (COE 112A, COE 113A and COE 123A) during the day for transfer into the Degree program in Automotive Systems Technology.

MECHANICAL DRAFTING TECHNOLOGY - CAD SYSTEMS MANAGEMENT

Associate in Applied Science Degree

(Begins Only in Odd Years)

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
DFT	111	Technical Drafting I	2	6	4
CIS	110	Introduction to Computers	2	2	3
			4	8	7
Second Semester (Spring)					
DFT	151	CAD I	2	3	3
MAT	121	Algebra/Trigonometry I	2	2	3
			4	5	6

Third Semester (Summer)					
DFT	152	CAD II	2	3	3
MAC	114	Introduction to Metrology	2	0	2
			4	3	5
Fourth Semester (Fall)					
DFT	112	Technical Drafting II	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	122	Algebra/Trigonometry II	2	2	3
			7	8	10
Fifth Semester (Spring)					
DFT	153	CAD III	2	3	3
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes	0	3	1
			5	6	7
Sixth Semester (Summer)					
DFT	252	Solid Models and Rendering	2	2	3
COM	231	Public Speaking	3	0	3
			5	2	6
Seventh Semester (Fall)					
DDF	211	Design Drafting I	2	6	4
		Elective*	2	3	3
			4	9	7
Eighth Semester (Spring)					
DFT	121	Introduction to Geometric Dimensioning and Tolerancing	1	2	2
CIS	120	Spread Sheet I	2	2	3
HUM	115	Critical Thinking	3	0	3
MEC	110	Introduction to CAD/CAM	1	2	3
			7	6	11
Ninth Semester (Summer)					
DFT	251	Customizing CAD Software	2	2	3
CIS	152	Database Concepts and Applications	2	2	3
			4	4	6
Tenth Semester (Fall)					
DFT	253	CAD Data Management	2	2	3
		Elective**	1	2	2
			3	4	5
Eleventh Semester (Spring)					
DFT	259	CAD Project	1	4	3
SOC	215	Group Processes	3	0	3
			4	4	6
		Program Totals	**51**	**59**	**76**

Suggested Electives: *CIS 215, **NET 115

CARPENTRY

Diploma

(Begins Only in Odd Years)

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
CAR	111A	Carpentry I	3	6	5
BPR	130	Blueprint Reading/Construction	1	2	2
MAT	101	Applied Mathematics I	2	2	3
			6	10	10
Second Semester (Spring)					
CAR	111B	Carpentry I	1	9	4
CAB	111A	Cabinetmaking I	4	3	5
			5	12	9
Third Semester (Summer)					
CAR	112A	Carpentry II	3	3	4
CAB	111B	Cabinetmaking I	0	6	2
			3	9	6
Fourth Semester (Fall)					
CAR	112B	Carpentry II	1	12	5
CAR	115	Residential Planning and Estimating	3	0	3
			4	12	8
Fifth Semester (Spring)					
CAR	113	Carpentry III	3	9	6
* ENG	102	Applied Communications II	3	0	3
			6	9	9
Sixth Semester (Summer)					
DFT	115	Architectural Drafting	1	2	2
DFT	119	Basic CAD	1	2	2
			2	4	4
		Program Totals	**26**	**56**	**46**

CIVIL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

(Begins Only in Odd Years)

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
CIS	111	Basic Personal Computer Literacy	1	2	2
EGR	115	Introduction to Engineering Technology	2	6	4
MAT	121	Algebra/Trigonometry I (or MAT 161)	2	2	3
			5	10	9

Second Semester (Spring)					
DFT	111	Technical Drafting II	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	122	Algebra/Trigonometry II (or MAT 162)	2	2	3
			7	8	10
Third Semester (Summer)					
SRV	110	Surveying I	2	6	4
Fourth Semester (Fall)					
CIV	110	Statics/Strength of Materials	2	6	4
SRV	111	Surveying II	2	6	4
			4	12	8
Fifth Semester (Spring)					
CIV	111	Soils and Foundations	2	3	3
CIV	210	Engineering Materials	1	3	2
ENG	114	Project Research and Reporting	3	0	3
			6	6	8
Sixth Semester (Summer)					
CIV	211	Hydraulics and Hydrology	2	3	3
DFT	151	CAD I	2	3	3
			4	6	6
Seventh Semester (Fall)					
CIV	125	Civil/Surveying CAD	1	6	3
CIV	215	Highway Technology	1	3	2
CIV	220	Basic Structure Concepts	1	3	2
			3	12	7
Eighth Semester (Spring)					
CIV	212	Environmental Planning	2	3	3
CIV	221	Steel and Timber Design	2	3	3
CIV	230	Construction Estimates	2	3	3
			6	9	9
Ninth Semester (Summer)					
CIV	240	Project Management	2	3	3
CIV	250	Civil Engineering Technology Project	1	3	2
			3	6	5
Tenth Semester (Fall)					
CIV	222	Reinforced Concrete	2	3	3
HUM	115	Critical Thinking	3	0	3
SOC	215	Group Processes	3	0	3
			8	3	9
		Program Totals	**48**	**78**	**75**

ELECTRICAL/ ELECTRONICS TECHNOLOGY

The Electrical/Electronics Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/ electronic systems found in residential, commercial and industrial facilities.

Training, most of which is hands-on, will include such topics as AC/DC theory, basic wiring practices, digital electronics, programmable logic controllers, industrial motor controls, the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical/electronics field as an on-the-job trainee or apprentice, assisting in the layout, installation, and maintenance of electrical/electronic systems.

ELECTRICAL/ELECTRONICS TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (ELN, ELC Prefix)		43
Related and General Education Courses		28
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	10	
Social Science	3	
Other	6	
PROGRAM TOTAL		71

			Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)					
ELN	152	Fabrication Techniques	1	3	2
CIS	110	Introduction to Computing	2	2	3
MAT	121	Algebra/Trigonometry I	2	2	3
			5	7	8
Second Semester (Spring)					
ELC	112	DC/AC Electricity (or ELC 131)	3	6	5
MAT	122	Algebra/Trigonometry II	2	2	3
			5	8	8
Third Semester (Summer)					
ELN	131	Electronic Devices	3	3	4
PHY	131	Physics - Mechanics	3	2	4
			6	5	8

Fourth Semester (Fall)					
ELC	113	Basic Wiring I	2	6	4
ELC	119	National Electric Code Calculations	1	2	2
ENG	111	Expository Writing	3	0	3
			6	8	9
Fifth Semester (Spring)					
ELC	114	Basic Wiring II	2	6	4
ELC	132	Electrical Drawings	1	3	2
ENG	114	Professional Research and Report Writing	3	0	3
			6	9	9
Sixth Semester (Summer)					
HYD	110	Hydraulics/Pneumatics	2	2	3
SOC	215	Group Processes	3	0	3
		Humanities Elective	3	0	3
			8	2	9
Seventh Semester (Fall)					
ELC	117	Motors and Controls	2	6	4
ELC	215	Electrical Maintenance	2	3	3
			4	9	7
Eighth Semester (Spring)					
ELC	128	Introduction to PLC	2	3	3
ELN	133	Digital Electronics	3	3	4
			5	6	7
Ninth Semester (Summer)					
ELC	228	PLC Applications	2	6	4
ELC	229	Applications Project	1	3	2
			3	9	6
		Program Totals	**48**	**63**	**71**

ELECTRONIC SERVICING TECHNOLOGY

The Electronic Servicing Technology curriculum is designed to provide basic knowledge and skills required in the installation, maintenance, and servicing of electronic components and systems. Men and women will gain entry level skills necessary for success in an ever changing high-technology world.

Students will learn to install, maintain, and service components in both consumer and industrial electronic fields. This includes but is not limited to radios, television, audio/video equipment, digital and microprocessor controlled systems, computers, and monitors.

Graduates should qualify for employment in a wide variety of businesses and industries that require electronic servicing technicians. Opportunities exist in areas such as consumer electronic repairs, business systems, and industrial electronic servicing.

ELECTRONIC SERVICING TECHNOLOGY

Diploma

		Credit Hrs.
This Program Consists of:		
Major Courses (ELN, ELC Prefix)		37
Related and General Education Courses		6
Including:		
Communications	3	
Natural Science/Mathematics	3	
PROGRAM TOTAL		43

			Hrs. Per Week Class	Hrs. Per Week Lab	Credit Hrs.
First Semester (Fall)					
ELC	140	Fundamentals of DC/AC Circuits	5	6	7
MAT	101	Applied Mathematics I	2	2	3
			7	8	10
Second Semester (Spring)					
ELN	140	Semiconductor Devices	4	6	6
* ENG	102	Applied Communications II	3	0	3
			7	6	9
Third Semester (Summer)					
ELN	141	Digital Fundamentals	4	6	6
Fourth Semester (Fall)					
ELN	144	Video Recording Systems	3	3	4
ELN	242	Audio Servicing	2	3	3
			5	6	7
Fifth Semester (Spring)					
ELN	143	Television Servicing	4	6	6
Sixth Semester (Summer)					
ELN	244	Computer Repair	3	6	5
		Program Totals	**30**	**38**	**43**

ELECTRONICS ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

			Hrs. Per Week		Credit
			Class	Lab	Hrs.
First Semester (Fall)					
ELN	152	Fabrication Techniques	1	3	2
CIS	110	Introduction to Computing	2	2	3
MAT	121	Algebra/Trigonometry I (or MAT 161 & 161A)	2	2	3
			5	7	8
Second Semester (Spring)					
ELC	131	DC/AC Circuit Analysis	4	3	5
MAT	122	Algebra/Trigonometry II (or MAT 162 & 162A)	2	2	3
			6	5	8
Third Semester (Summer)					
ELN	131	Electronic Devices	3	3	4
ENG	111	Expository Writing	3	0	3
			6	3	7
Fourth Semester (Fall)					
ELN	132	Linear IC Applications	3	3	4
PHY	131	Physics - Mechanics (or PHY 151)	3	2	4
			6	5	8
Fifth Semester (Spring)					
ELC	132	Electrical Drawing	1	3	2
ELN	133	Digital Electronics	3	3	4
DFT	151	CAD I	2	3	3
			6	9	9
Sixth Semester (Summer)					
ELC	117	Motors and Controls	2	6	4
ELN	234	Communication Systems	3	3	4
			5	9	8
Seventh Semester (Fall)					
ELN	260	Programmable Logic Controllers	3	3	4
ENG	114	Professional Research and Report Writing	3	0	3
SOC	215	Group Processes	3	0	3
			9	3	10
Eighth Semester (Spring)					
ELN	232	Introduction to Microprocessors	3	3	4
Ninth Semester (Summer)					
ELN	275	Troubleshooting	1	2	2
		Humanities Elective	3	0	3
			4	2	5
		Program Totals	**50**	**46**	**71***

*The credit hours total includes a minimum of four (4) credit hours of major electives to be selected from the following: ATR 112, CIS 115, CIS 152, DFT 152, DFT 153, ELC 113, ELC 114, ELC 119, ELC 215, ELC 228, ELC 229, HYD 110, MAT 151, MAT 155, MEC 161 (with 161A), MEC 250, PHY 152.

MACHINING TECHNOLOGY

Diploma

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Fall)				
MAC 111A	Machining Technology I	1	6	3
MAC 151	Machining Calculations	1	2	2
BPR 111	Blueprint Reading I	1	2	2
		3	10	7
Second Semester (Spring)				
MAC 111B	Machining Technology I	1	6	3
BPR 121	Blueprint Reading II	1	2	2
MAT 121	Algebra/Trigonometry I	2	2	3
		4	10	8
Third Semester (Summer)				
MAC 112A	Machining Technology II	1	4	2
MAC 121	Introduction to CNC	2	0	2
		3	4	4
Fourth Semester (Fall)				
MAC 112B	Machining Technology II	1	8	4
MAC 124	CNC Milling	1	3	2
MAC 152	Advanced Machining Calculations	1	2	2
		3	13	8
Fifth Semester (Spring)				
MAC 113A	Machining Technology III	1	8	4
ENG 111	Expository Writing	3	0	3
MEC 142	Physical Metallurgy	1	2	2
		5	10	9
Sixth Semester(Summer)				
MAC 113B	Machining Technology III	1	4	2
SOC 215	Group Processes	3	0	3
		4	4	5
	Program Total	**23**	**51**	**42**

MACHINING TECHNOLOGY

Associate in Applied Science Degree

		Credit Hrs.
This Program Consists of:		
Major Courses (MAC Prefix)		50
Related and General Education Courses		20
Including:		
Communications	6	
Humanities/Fine Arts	3	
Natural Science/Mathematics	4	
Social Science	3	
Other	4	
PROGRAM TOTAL		70

			Hrs. Per Week		**Credit**
			Class	**Lab**	**Hrs.**
First Semester (Fall)					
MAC	111A	Machining Technology I	1	6	3
MAC	151	Machining Calculations	1	2	2
BPR	111	Blueprint Reading I	1	2	2
			3	10	7
Second Semester (Spring)					
MAC	111B	Machining Technology I	1	6	3
BPR	121	Blueprint Reading II	1	2	2
MAT	121	Algebra/Trigonometry I	2	2	3
			4	10	8
Third Semester (Summer)					
MAC	112A	Machining Technology II	1	4	2
MAC	121	Introduction to CNC	2	0	2
			3	4	4
Fourth Semester (Fall)					
MAC	112B	Machining Technology II	1	8	4
MAC	124	CNC Milling	1	3	2
MAC	152	Advanced Machining Calculations	1	2	2
			3	13	8
Fifth Semester (Spring)					
MAC	113A	Machining Technology III	1	8	4
ENG	111	Expository Writing	3	0	3
MEC	142	Physical Metallurgy	1	2	2
			5	10	9
Sixth Semester(Summer)					
MAC	113B	Machining Technology III	1	4	2
SOC	215	Group Processes	3	0	3
			4	4	5

Seventh Semester (Fall)

MAC 122	CNC Turning	1	3	2
MAC 214A	Machining Technology IV	1	6	3
		2	9	5

Eighth Semester (Spring)

MAC 214B	Machining Technology IV	1	6	3
MAC 229	CNC Programming	2	0	2
		3	6	5

Ninth Semester (Summer)

MAC 224	Advanced CNC Milling	1	3	2

Tenth Semester (Fall)

MAC 226	CNC EDM Machining	1	3	2
MEC 231	CAM I	1	4	3
COM 231	Public Speaking	3	0	3
		5	7	8

Eleventh Semester (Spring)

MEC 232	CAM II	1	4	3
MAC 247	Production Tooling	2	0	2
	Humanities Elective	3	0	3
		6	4	8

	Program Totals	**39**	**82**	**70**

MECHANICAL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

(Begins Only in Even Years)

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
DFT 111	Technical Drafting I	2	6	4
MAT 161	College Algebra	3	0	3
MAT 161A	College Algebra Lab	0	2	1
		5	8	8
Second Semester (Spring)				
MEC 180	Engineering Materials	2	3	3
MAT 162	College Trigonometry	3	0	3
MAT 162A	College Trigonometry Lab	0	2	1
		5	5	7
Third Semester (Summer)				
DFT 151	CAD I	2	3	3
ENG 111	Expository Writing	3	0	3
		5	3	6
Fourth Semester (Fall)				
MEC 267	Thermal Systems	2	2	3
SOC 215	Group Processes	3	0	3
	Humanities Elective	3	0	3
		8	2	9

Fifth Semester (Spring)				
ENG 114	Professional Research and Reporting	3	0	3
PHY 151	College Physics I	3	2	4
		6	2	7
Sixth Semester (Summer)				
MEC 161	Manufacturing Processes I	3	0	3
MEC 161A	Manufacturing Processes I Lab	0	3	1
HYD 110	Hydraulics and Pneumatics	2	3	3
		5	6	7
Seventh Semester (Fall)				
MEC 250	Statics and Strength of Materials	4	3	5
MAC 121	Introduction to CNC	2	0	2
		6	3	7
Eighth Semester (Spring)				
MEC 270	Machine Design	3	3	4
ELC 111	Introduction to Electricity	2	2	3
		5	5	7
Ninth Semester (Summer)				
MEC 261	Manufacturing Processes II	2	4	4
MEC 275	Engineering Mechanisms	2	2	3
		4	6	7
Tenth Semester (Fall)				
MEC 237	Control Systems	3	2	4
ELC 128	Introduction to PLC	2	3	3
		5	5	7
Eleventh Semester (Spring)				
MEC 288	Manufacturing Engineering R & D Project	0	2	1
ATR 112	Introduction to Automation	2	3	3
		2	5	4
	Program Totals	**56**	**50**	**76**

SURVEYING TECHNOLOGY

Associate in Applied Science Degree

(Begins Only in Odd Years)

		Hrs. Per Week		**Credit**
		Class	**Lab**	**Hrs.**
First Semester (Fall)				
CIS 111	Basic Personal Computer Literacy	1	2	2
EGR 115	Introduction to Engineering Technology	2	6	4
MAT 121	Algebra/Trigonometry I (or MAT 161 & 161A)	2	2	3
		5	10	9
Second Semester (Spring)				
ENG 111	Expository Writing	3	0	3
MAT 122	Algebra/Trigonometry II (or MAT 162 & 162A)	2	2	3
		5	2	6

Third Semester (Summer)				
SRV 110	Surveying I	2	6	4
Fourth Semester (Fall)				
CIV 110	Statics/Strength of Materials	2	6	4
SRV 111	Surveying II	2	6	4
		4	12	8
Fifth Semester (Spring)				
CIV 111	Soils and Foundations	2	3	3
SRV 210	Engineering Materials	2	6	4
ENG 114	Project Research and Reporting	3	0	3
		7	9	10
Sixth Semester (Summer)				
CIV 211	Hydraulics and Hydrology	2	3	3
Seventh Semester (Fall)				
CIV 125	Civil/Surveying CAD	1	6	3
CIV 215	Highway Technology	1	3	2
SRV 220	Surveying Law	2	2	3
		4	11	8
Eighth Semester (Spring)				
SRV 240	Topographic/Site Surveying	2	6	4
SRV 260	Field and Office Practices	1	3	2
SOC 215	Group Processes	3	0	3
		6	9	9
Ninth Semester (Summer)				
SRV 230	Subdivision Planning	1	6	3
Tenth Semester (Fall)				
SRV 250	Advanced Surveying	2	6	4
HUM 115	Critical Thinking	3	0	3
		5	6	7
	Program Totals	**41**	**74**	**67**

MACHINING TECHNOLOGY - TOOL, DIE, AND MOLD MAKING

Associate in Applied Science Degree

		Hrs. Per Week		**Credit**
		Class	**Lab**	**Hrs.**
First Semester (Fall)				
MAC 111A	Machining Technology I	1	6	3
MAC 151	Machining Calculations	1	2	2
BPR 111	Blueprint Reading II	1	2	2
		3	10	7

Second Semester (Spring)				
MAC 111B	Machining Technology I	1	6	3
MAT 121	Algebra/Trigonometry I	2	2	3
BPR 121	Blueprint Reading III	1	2	2
		4	10	8
Third Semester (Summer)				
MAC 112A	Machining Technology III	1	4	2
MAC 121	Introduction to CNC	2	0	2
		3	4	4
Fourth Semester (Fall)				
MAC 112B	Machining Technology III	1	8	4
MAC 152	Advanced Machining Calculations	1	2	2
		2	10	6
Fifth Semester (Spring)				
MAC 113A	Machining Technology III	1	8	4
ENG 111	Expository Writing	3	0	3
		4	8	7
Sixth Semester (Summer)				
MAC 113B	Machining Technology III	1	4	2
SOC 215	Group Processes	3	0	3
		4	4	5
Seventh Semester (Fall)				
MAC 124	CNC Milling	1	3	2
MAC 243	Die Making I	2	6	4
COM 231	Public Speaking	3	0	3
		6	9	9
Eighth Semester (Spring)				
MEC 142	Physical Metallurgy	1	2	2
BPR 123	Die/Mold Print Reading	1	3	2
	Humanities Elective	3	0	3
		5	5	7
Ninth Semester (Summer)				
MAC 244	Die Making II	1	9	4
Tenth Semester (Fall)				
MEC 141	Introduction to Manufacturing Processes	2	2	3
MAC 226	CNC EDM Machining	1	3	2
MAC 153	Compound Angles	1	2	2
		4	7	7
Eleventh Semester (Spring)				
MAC 241	Jig and Fixtures	2	6	4
MAC 245	Mold Construction I	2	6	4
		4	12	8
Twelfth Semester (Summer)				
MAC 246	Mold Construction II	1	9	4
	Program Totals	**41**	**97**	**76**

WELDING TECHNOLOGY

Diploma

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
WLD 110	Cutting Processes	1	3	2
WLD 115	Shielded Metal Arc Welding (stick) Plate	2	9	5
		3	12	7
Second Semester (Spring)				
WLD 121	Gas Tungsten Arc Welding (MIG) Flux Core Arc Welding/Plate	2	6	4
WLD 141	Symbols and Specifications	2	2	3
* ENG 102	Applied Communications II	3	0	3
		7	8	10
Third Semester (Summer)				
WLD 116	Shielded Metal Arc Welding (stick) plate/pipe	1	9	4
Fourth Semester (Fall)				
WLD 122	Gas Tungsten Arc Welding (MIG) plate/pipe	1	6	3
WLD 131	Gas Tungsten Arc Welding	2	6	4
		3	12	7
Fifth Semester (Spring)				
WLD 132	Gas Tungsten Arc Welding (TIG) plate/pipe	1	6	3
MAT 101	Fundamentals of Mathematics	2	2	3
		3	8	6
Sixth Semester (Summer)				
WLD 151	Fabrication I (or WLD 215)	2	6	4
Program Totals		**19**	**55**	**38**

EVENING PROGRAMS IN COLLEGE TRANSFER

Precurriculum Requirements for the
ASSOCIATE IN ARTS (A.A.) DEGREE
ASSOCIATE IN SCIENCE (A.S.) DEGREE
GENERAL OCCUPATIONAL TECHNOLOGY (A.A.S.)

Evening Program Model of Semester Course Sequence +

Applicants with low placement scores and/or lack of high school prerequisites will complete precurriculum work in the Guided Studies department. One to three semesters of preparation may be required in mathematics, English and/or reading. The level at which students enter Guided Studies is determined by scores on the placement test. A student requiring the maximum number of Guided Studies courses could complete all prerequisites in three semesters in the evening program.

		Hrs. Per Week Class	Lab	Credit Hrs.
First Semester (Summer)				
MAT 060	Essential Mathematics	3	2	4
RED 080	Introduction to College Reading	3	2	4
		6	4	8
Second Semester (Fall)				
MAT 070*	Introductory Algebra	3	2	4
RED 090	Improved College Reading	3	2	4
		6	4	8
Third Semester (Spring)				
MAT 080	Intermediate Algebra	3	2	4
ENG 080	Writing Foundations	3	2	4
		6	4	8
Fourth Semester (Summer)				
ENG 090	Composition Strategies	3	0	3
ENG 090A	Composition Strategies Lab	0	2	1
BIO 094**	Concepts of Human Biology	3	2	4
		6	4	8

+ Selection of beginning course work may vary.

* Students who have passed Algebra I with a C or better and who score between 35.1 and 70.0 on the Elementary Algebra portion of the CPT, may take the fast track Accelerated Algebra, MAT 090, in place of MAT 070-MAT 080 with permission of counselors.

**Recommended for students who did not take high school biology and intend to take college-level biology sequence.

Once students complete requirements in the above areas, they may enroll in curriculum level courses.

Curriculum Requirements for the
ASSOCIATE IN ARTS (A.A.) DEGREE

Semester Hours

GENERAL EDUCATION CORE REQUIREMENTS **44**

English/Communications 18

English Composition 6

ENG 111 and 113 are required

Speech and Communications 3

COM 231 is required

Humanities/Fine Arts 9

1) Three courses must be selected from at least three disciplines in this category.
2) At least one course must be a literature course.
3) Speech/Communication may not substitute for the literature require ment.

Courses must be selected from music, art, drama, dance, foreign languages, interdisciplinary humanities, literature, philosophy, and religion.

Social/Behavioral Sciences 12

1) Four courses must be selected from at least three disciplines in this category.
2) At least one course must be a history course.

Courses must be selected from anthropology, economics, geography, history, political science, psychology, and sociology.

Natural Science/Mathematics 14

Natural Sciences 8

Select two courses, including accompanying laboratory work, from among the biological and physical science disciplines.

Mathematics 6

MAT 161 is required. Select another course from among other quantitative subjects.

OTHER REQUIRED HOURS **20**

Computing 3

CIS 110 is required

MAT 161A 1

Health/Physical Education 3

HEA 110 or PED 110 plus any PED activity course are required.

Remaining semester hours 13

Must include additional General Educatiion and professional courses that have been approved for transfer.

Total Semester Hours **64**

All college transfer courses submitted for graduation require a minimum grade of "C."

ASSOCIATE IN ARTS DEGREE

Evening Program Model of Semester Course Sequence*

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
CIS 110	Introduction to Computers	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 161/161A	College Algebra	3	2	4
		8	4	10
Second Semester (Spring)				
ENG 113	Literature-Based Research	3	0	3
MAT	Math Elective	3	2	4
	Social/Behavioral Sciences Course	3	0	3
		9	2	10
Third Semester (Fall)				
COM 231	Public Speaking	3	0	3
	Humanities/Fine Arts Course	3	0	3
	Science Course I	3	3	4
		9	3	10
Fourth Semester (Spring)				
ENG	Literature Requirement for Humanities/Fine Arts	3	0	3
	Science Course II	3	3	4
	Social/Behavioral Sciences Course	3	0	3
		9	3	10
Fifth Semester (Fall)				
	History Requirement for Social/Behavioral Sciences	3	0	3
	Humanities/Fine Arts Course	3	0	3
	Elective	3	0	3
	Elective	3	0	3
		12	0	12
Sixth Semester (Spring)				
	Social/Behaviorlal Sciences Course	3	0	3
	Elective	3	0	3
	Elective	3	0	3
	Elective	3	0	3
		12	0	12
	Program Totals	**59**	**12**	**64**

Health/Physical Education courses may be selected any semester.

Foreign Language courses may be selected in a sequence that meets the requirements of the receiving universities.

*Course sequence and hours may vary depending on courses selected.

Curriculum Requirements for the
ASSOCIATE IN SCIENCE (A.S.) DEGREE

			Semester Hours
GENERAL EDUCATION CORE REQUIREMENTS			**46**
English/Communications		**18**	
English Composition	6		
ENG 111 and 113 are required			
Speech and Communications	3		
COM 231 is required			
Humanities/Fine Arts	9		
1) Three courses must be selected from at least three disciplines in this category. 2) At least one course must be a literature course. 3) Speech/Communication may not substitute for the literature requirement. Courses must be selected from music, art, drama, dance, foreign languages, interdisciplinary humanities, literature, philosophy, and religion.			
Social/Behavioral Sciences		**12**	
1) Four courses must be selected from at least three disciplines in this category. 2) At least one course must be a history course. Courses must be selected from anthropology, economics, geography, history, political science, psychology, and sociology.			
Natural Science/Mathematics		**16**	
Natural Sciences	8		
Select first science sequence, including accompanying laboratory work, from among the biological and physical science disciplines.			
Mathematics	8		
MAT 271 and 272 are required.			
OTHER REQUIRED HOURS			**18**
Computing		3	
CIS 110 is required			
Health/Physical Education		3	
HEA 110 or PED 110 plus any PED activity course are required.			
Mathematics		4	
Four other semester hours may be selected from among other quantitative subjects.			
Natural Sciences		8	
A second science sequence is required, including laboratory work, selected from the biological and physical science disciplines.			
Total Semester Hours			**64**

All college transfer courses submitted for graduation require a minimum grade of "C."

ASSOCIATE IN SCIENCE DEGREE

Evening Program Model of Semester Course Sequence*

		Hrs. Per Week		Credit
		Class	Lab	Hrs.
First Semester (Fall)				
ENG 111	Expository Writing	3	0	3
MAT 175	Precalculus	4	0	4
	First Science Sequence - Course I	3	3	4
		10	3	11
Second Semester (Spring)				
ENG 113	Literature-Based Research	3	0	3
MAT 271	Calculus I	3	2	4
	First Science Sequence - Course II	3	3	4
		9	5	11
Third Semester (Fall)				
CIS 110	Introduction to Computers	2	2	3
COM 231	Public Speaking	3	0	3
MAT 272	Calculus II	3	2	4
	Second Science Sequence - Course I	3	3	4
		11	7	14
Fourth Semester (Spring)				
ENG	Literature Requirement for Humanities/Fine Arts	3	0	3
MAT 273	Calculus III (Elective)	3	2	4
	Second Science Sequence - Course II	3	3	4
	Social/Behavioral Sciences Course	3	0	3
		12	5	14
Fifth Semester (Fall)				
	Humanities/Fine Arts Course	3	0	3
	Humanities/Fine Arts Course	3	0	3
	Social/Behavioral Sciences Course	3	0	3
		9	0	9
Sixth Semester (Spring)				
	History Requirement for Social/Behavioral Sciences	3	0	3
	Social Behavioral Sciences Course	3	0	3
		6	0	6
	Program Totals	**57**	**20**	**65**

Health/Physical Education courses may be selected any semester.

Foreign Language courses may be selected in a sequence that meets the requirements of the receiving universities.

*Course sequence and hours may vary depending on courses selected.

GENERAL OCCUPATIONAL TECHNOLOGY

Associate in Applied Science Degree

		Hrs. Per Week Class	Lab	Credit Hrs.
General Education				
COM 231	Public Speaking	3	0	3
ENG 111	Expository Writing	3	0	3
HUM 115	Critical Thinking	3	0	3
MAT 115	Mathematical Models (or MAT 161 or155)	2	2	3
SOC 215	Group Processes (or SOC 225)	3	0	3
		14	2	15
Major Hours*				
BIO 168	Anatomy and Physiology I	3	3	4
BIO 169	Anatomy and Physiology II	3	3	4
CIS 111	Basic PC Literacy (or CIS 110)	1	2	2
ECO 251	Principles of Micro-Economics	3	0	3
OST 131	Keyboarding	1	2	2
PSY 150	General Psychology	3	0	3
		14	10	18

Other Major Hours* 31

Must be from curriculum programs offered by A-B Tech.

Must be from the following Prefixes:

ACC, AHR, ATR, AUT, BIO, BPR, BUS, CHM, CIS, CIV, CJC, COE, CUL, DDF, DEN, DFT, ECO, EDU, EGR, ELC, EMS, ENG, HRM, HSE, HUM,HYD, ISC, MAC, MAT, MEC, MKT, MLT, NET, NUR, NUT, OMT, OST, PED, PHI, PHY, PSY, RAD, REA, RLS, SAB, SOC, SUR, SWK

		Class	Lab	Credit Hrs.
Other Required Hours*				
ACA 120	Career Assessment	1	0	1

Program Totals 65

* All courses in these lists must have a minimum grade of "C."

Course Descriptions

Asheville-Buncombe Technical Community College

Prefix Index

ACA: Academic Related 171
ACC: Accounting 171
AHR: Air Conditioning, Heating, and Refrigeration 173
ANT: Anthropology 176
ART: Art 176
AST: Astronomy 179
ATR: Automation Training 179
AUT: Automotive 179

BIO: Biology 182
BPR: Blueprint Reading 186
BUS: Business Administration 187

CAB: Cabinetmaking 189
CAR: Carpentry 189
CHM: Chemistry 190
CIS: Information Systems 193
CIV: Civil Engineering 196
CJC: Criminal Justice 199
COE: Cooperative Education 202
COM: Communications 206
CSC: Information Systems - Programming 206
CUL: Culinary 207

DDF: Design Drafting 210
DEN: Dental 210
DFT: Drafting 215
DIE: Diesel Mechanics 217
DRA: Drama 219

ECO: Economics 219
EDU: Education 220
EGR: Engineering 223
ELC: Electrical 223
ELN: Electronics 225
EMS: Emergengy Medical Science 228
ENG: English 231

FRE: French 234

GEO: Geography 235

HEA: Health 236
HIS: History 236
HRM: Hotel and Restaurant Management 239
HSE: Human Services 242
Humanities/Fine Arts Courses 243
HUM: Humanities 244
HYD: Hydraulics 245

ISC: Industrial Science 246

MAC: Machining 247
MAT: Mathematics 250
MEC: Mechanical 256
MKT: Marketing and Retailing 258

MLT: Medical Laboratory Technology 260
MUS: Music 263

NET: Networking Technology 264
NUR: Nursing 264
NUT: Nutrition 267

OMT: Operations Management 267
OST: Office Systems Technology 267

PBT: Phlebotomy 270
PED: Physical Education 270
PHI: Philosophy 274
PHY: Physics 275
POL: Political Science 277
PSY: Psychology 277

RAD: Radiography 280
REA: Real Estate Appraisal 283
RED: Reading 284
REL: Religion 284
RLS: Real Estate 285

Social/Behavioral Science Courses 286
SAB: Substance Abuse 287
SOC: Sociology 287
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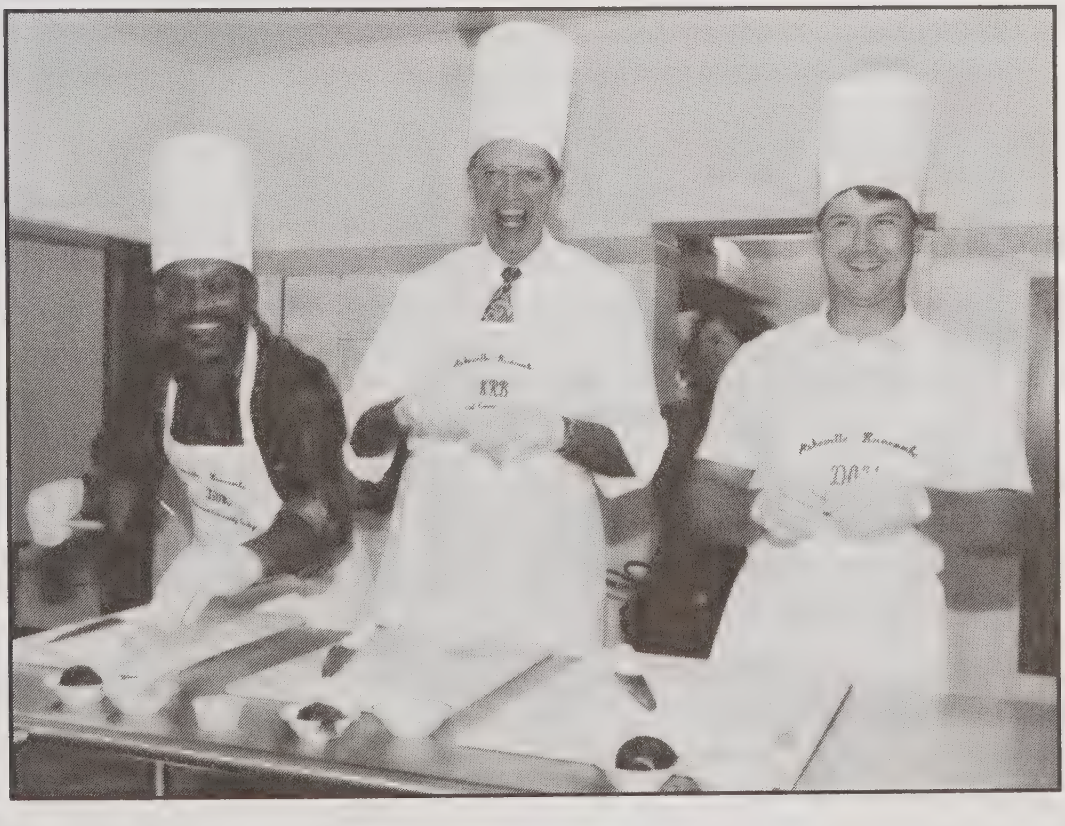
SRV: Surveying 289
SWK: Social Work 290

WLD: Welding 291

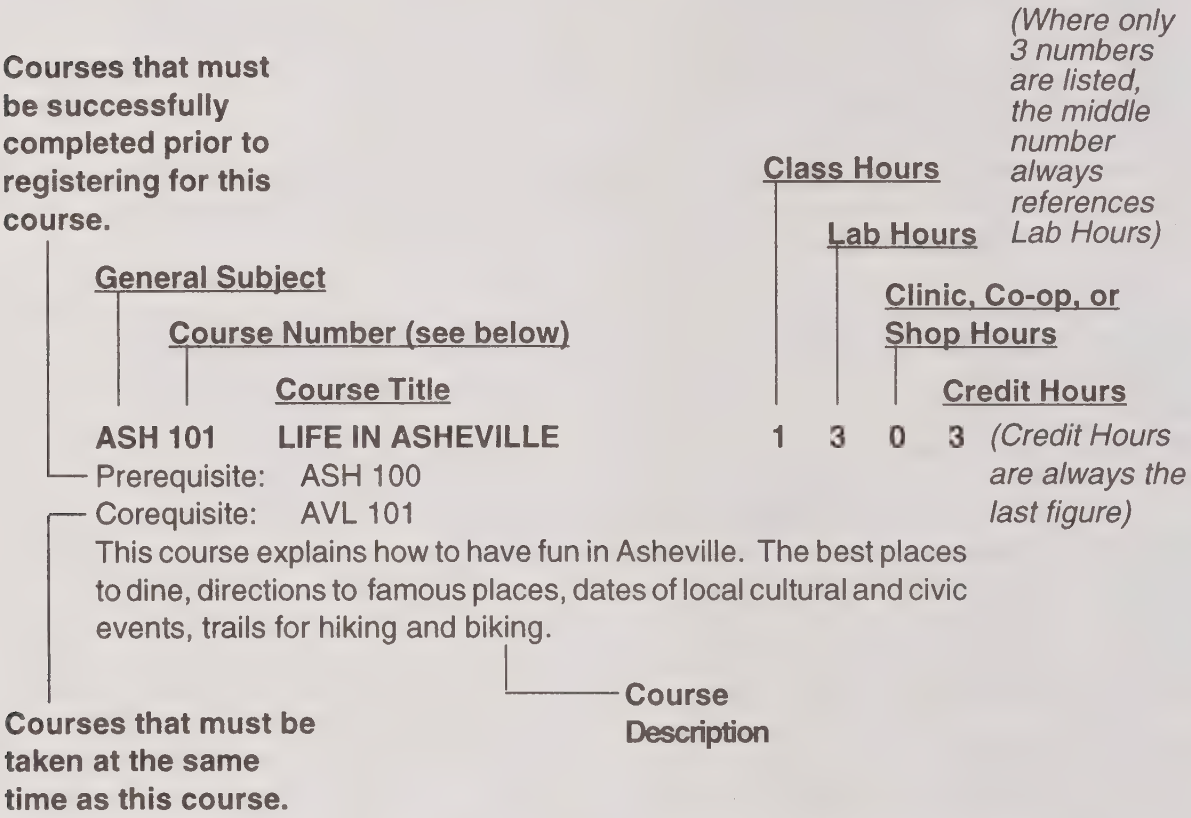


President Bailey enthusiastically joins in a culinary training session.

COURSE DESCRIPTIONS

The following section of your catalog contains descriptions of courses offered by Asheville-Buncombe Technical Community College. These descriptions contain information about the content of courses so that students will know what they will be learning.

The following example explains each component of the course description entry.


Courses that must be successfully completed prior to registering for this course.
General Subject
Course Number (see below)
Course Title
Class Hours
Lab Hours
(Where only 3 numbers are listed, the middle number always references Lab Hours)
Clinic, Co-op, or Shop Hours
Credit Hours
(Credit Hours are always the last figure)
Course Description
Courses that must be taken at the same time as this course.

ASH 101 LIFE IN ASHEVILLE 1 3 0 3

Prerequisite: ASH 100

Corequisite: AVL 101

This course explains how to have fun in Asheville. The best places to dine, directions to famous places, dates of local cultural and civic events, trails for hiking and biking.

Course Numbers consist of three digits, and numbers are assigned as follows:

- The first digit indicates the year the course is normally taken. A first digit of '0' is used for Guided Studies courses.
- The second digit denotes the credential for which the course is intended:
  100-109 and 200-209: Courses for stand-alone certificate and diploma programs.
  110-189 and 210-289: Courses for associate degree programs; these courses may also be used in certificate and diploma programs.
  190-199 and 290-299: Seminar and Selected Topics courses for all programs.
- The third digit indicates the order in which the course is usually taken.
  Example: ACC 120 Principles of Accounting I
  ACC 121 Principles of Accounting II

Please examine each course description before registering and determine if all prerequisites have been met. Prerequisites shown are those courses that must be successfully completed before attempting further study. In certain cases the department chairperson may waive some prerequisites.

**Credit by Examination is not available for courses marked with an asterisk because of the nature of the course and in some cases safety requirements in the use of equipment. Any exceptions must be with the approval of the department chairperson.*

Academic Related

ACA 120 Career Assessment 1 0 1
Prerequisites: None
Corequisites: None
This course provides the information and strategies necessary to develop clear personal, academic, and professional goals. Topics include personality styles, goal setting, various college curricula, career choices, and campus leadership development. Upon completion, students should be able to clearly state their personal, academic, and professional goals and have a feasible plan of action to achieve those goals.

Accounting

ACC 120 Principles Of Accounting I 3 2 4
Prerequisites: None
Corequisites: None
This course introduces the basic principles and procedures of accounting. Emphasis is placed on collecting, summarizing, analyzing, and reporting financial information. Upon completion, students should be able to analyze data and prepare journal entries and reports as they relate to the accounting cycle.

ACC 121 Principles of Accounting II 3 2 4
Prerequisites: ACC 120
Corequisites: None
This course is a continuation of ACC 120. Emphasis is placed on corporate and managerial accounting for both external and internal reporting and decision making. Upon completion, students should be able to analyze and record corporate transactions, prepare financial statements and reports, and interpret them for management.

ACC 125 Mathematics of Finance 3 0 3
Prerequisites: BUS 121
Corequisites: None
This course covers computations necessary in accounting for various business transactions. Emphasis is placed on time value of money concepts and calculations needed for topics such as stocks and bonds, annuities, sinking funds, and amortization. Upon completion, students should be able to make computations necessary in accounting for transactions involving these topics.

ACC 129 Individual Income Taxes 2 2 3
Prerequisites: None
Corequisites: None
This course introduces the relevant laws governing individual income taxation. Emphasis is placed on filing status, exemptions for dependents, gross income, adjustments, deductions, and computation of tax. Upon completion, students should be able to complete various tax forms pertaining to the topics covered in the course.

ACC 130 Business Income Taxes 2 2 3
Prerequisites: None
Corequisites: None
This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax depreciation, accounting periods and methods, corporations, partnerships, S corporations, estates and trusts, and gifts. Upon completion, students should be able to complete various tax forms pertaining to the topics covered in the course.

ACC 140 Payroll Accounting **1 2 2**
Prerequisites: ACC 120
Corequisites: None
This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries.

ACC 150 Computerized General Ledger **1 2 2**
Prerequisites: ACC 120
Corequisites: None
This course introduces microcomputer applications related to the major accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems.

ACC 175 Hotel and Restaurant Accounting **3 2 4**
Prerequisites: None
Corequisites: None
This course covers generally accepted accounting principles and the uniform system of accounts for small hotels and motels of the American Hotel and Motel Association. Emphasis is placed on the accounting cycle, analysis of financial statements, and payroll procedures including treatment of tips. Upon completion, students should be able to demonstrate competence in the accounting principles and procedures used in hotels and restaurants.

***ACC 220 Intermediate Accounting I** **3 2 4**
Prerequisites: ACC 121
Corequisites: None
This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and statements and extensive analyses of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

***ACC 221 Intermediate Accounting II** **3 2 4**
Prerequisites: ACC 220
Corequisites: None
This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

ACC 225 Cost Accounting **3 0 3**
Prerequisites: ACC 121
Corequisites: None
This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

***ACC 269 Auditing** **3 0 3**
Prerequisites: ACC 220
Corequisites: None
This course covers the overall framework of the process of conducting audits and investigations. Emphasis is placed on collecting data from working papers, arranging and systematizing the audit, and writing the audit report. Upon completion, students should be able to demonstrate competence in applying the generally accepted auditing standards and the procedures for conducting an audit.

Air Conditioning, Heating, and Refrigeration

***AHR 110 Introduction to Refrigeration** **2 6 5**
Prerequisites: None
Corequisites: None
This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

***AHR 111 HVACR Electricity** **2 2 3**
Prerequisites: None
Corequisites: None
This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

***AHR 112 Heating Technology** **2 4 4**
Prerequisites: None
Corequisites: None
This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

***AHR 113 Comfort Cooling** **2 4 4**
Prerequisites: None
Corequisites: None
This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

***AHR 114 Heat Pump Technology** **2 4 4**
Prerequisites: AHR 110 or AHR 113
Corequisites: None
This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

***AHR 115 Refrigeration Systems** 1 3 2
Prerequisites: AHR 110
Corequisites: None
This course introduces refrigeration systems and applications. Topics include defrost methods, safety and operational control, refrigerant piping, refrigerant recovery and charging, and leak testing. Upon completion, students should be able to assist in installing and testing refrigeration systemsa and perform simple repairs.

***AHR 120 HVACR Maintenance** 1 3 2
Prerequisites: None
Corequisites: None
This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

***AHR 125 HVAC Electronics** 1 3 2
Prerequisites: None
Corequisites: AHR 111 or ELC 111
This course introduces the common electronic control components in HVAC systems. Emphasis is placed on identifying electronic components and their functions in HVAC systems and motor-driven control circuits. Upon completion, students should be able to identify components, describe control circuitry and functions, and use test instruments to measure electronic circuit values and identify malfunctions.

***AHR 130 HVAC Controls** 2 2 3
Prerequisites: AHR 111 or ELC 111
Corequisites: None
This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort systems controls.

***AHR 151 HVAC Duct Systems I** 1 3 2
Prerequisites: None
Corequisites: None
This course introduces the techniques used to lay out and fabricate duct work commonly found in HVAC systems. Emphasis is placed on the skills required to fabricate duct work. Upon completion, students should be able to lay out and fabricate simple duct work.

***AHR 210 Residential Building Code** 1 2 2
Prerequisites: None
Corequisites: None
This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.

***AHR 211 Residential System Design** 2 2 3
Prerequisites: None
Corequisites: None
This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.

***AHR 212 Advanced Comfort Systems** 2 6 4
Prerequisites: AHR 114
Corequisites: None
This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps.

***AHR 215 Commercial HVAC Controls** 1 3 2
Prerequisites: AHR 111 or ELC 111
Corequisites: None
This course introduces HVAC control systems used in commercial applications. Topics include electric/electronic control systems, pneumatic control systems, DDC temperature sensors, humidity sensors, pressure sensors, wiring, controllers, actuators, and controlled devices. Upon completion, students should be able to verify or correct the performance of common control systems with regard to sequence of operation and safety.

***AHR 240 Hydronic Heating** 1 3 2
Prerequisites: AHR 112
Corequisites: None
This course covers the accepted procedures for proper design, installation, and balance of hydronic heating systems for residential or commercial buildings. Topics include heating equipment; pump, terminal unit, and accessory selection; piping system selection and design; and pipe sizing and troubleshooting. Upon completion, students should be able to assist with the proper design, installation, and balance of typical hydronic systems.

***AHR 245 Chiller Systems** 1 3 2
Prerequisites: AHR 110
Corequisites: None
This course introduces the fundamentals of liquid chilling equipment. Topics include characteristics of water, principles of water chilling, the chiller, the refrigerant, water and piping circuits, freeze prevention, purging, and equipment flexibility. Upon completion, students should be able to describe the components, controls, and overall operation of liquid chilling equipment and perform basic maintenance tasks.

***AHR 247 Atypical Systems** 1 3 2
Prerequisites: AHR 110
Corequisites: None
This course introduces refrigeration systems utilizing non-fluorocarbon based refrigerants. Topics include mechanical compression ammonia systems, ammonia absorption systems, and other absorption type systems. Upon completion, students should be able to demonstrate an understanding of the operation of certain non-fluorocarbon based refrigeration systems.

***AHR 255 Indoor Air Quality** **1 2 2**

Prerequisites: None

Corequisites: None

This course introduces the techniques of assessing and maintaining the quality of the indoor environment in residential and commercial structures. Topics include handling and investigating complaints, filter selection, humidity control, testing for sources of carbon monoxide, impact of mechanical ventilation, and building and duct pressures. Upon completion, students should be able to assist in investigating and solving common indoor air quality problems.

Anthropology

ANT 210 General Anthropology **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 220 Cultural Anthropology **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 230 Physical Anthropology **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human evolution and adaptation. Emphasis is placed on evolutionary theory, population genetics, biocultural adaptation and human variation, as well as non-human primate evolution, morphology, and behavior. Upon completion, students should be able to demonstrate an understanding of the biological and cultural processes which have resulted in the formation of the human species. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

Art

ART 114 Art History Survey I **3 0 3**

Prerequisites: None

Corequisites: None

This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 115 Art History Survey II 3 0 3
Prerequisites: None
Corequisites: None
This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 117 Non-Western Art History 3 0 3
Prerequisites: None
Corequisites: None
This course introduces non-Western cultural perspectives. Emphasis is placed on, but not limited to, African, Oriental, and Oceanic art forms throughout history. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of non-Western social and cultural development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 131 Drawing I 0 6 3
Prerequisites: None
Corequisites: None
This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes.

ART 132 Drawing II 0 6 3
Prerequisites: ART 131
Corequisites: None
This course continues instruction in the language of drawing and the use of various materials. Emphasis is placed on experimentation in the use of drawing techniques, media, and graphic materials. Upon completion, students should be able to demonstrate increased competence in the expressive use of graphic form and techniques.

ART 171 Computer Art I 1 4 3
Prerequisites: None
Corequisites: None
This course introduces the use of the computer as a tool for solving visual problems. Emphasis is placed on fundamentals of computer literacy and design through bit-mapped image manipulation. Upon completion, students should be able to demonstrate an understanding of paint programs, printers, and scanners to capture, manipulate, and output images.

ART 240 Painting I 0 6 3
Prerequisites: None
Corequisites: None
This course introduces the language of painting and the use of various painting materials. Emphasis is placed on the understanding and use of various painting techniques, media, and color principles. Upon completion, students should be able to demonstrate competence in the use of creative processes directed toward the development of expressive form.

ART 241 Painting II **0 6 3**
Prerequisites: ART 240
Corequisites: None
This course provides a continuing investigation of the materials, processes, and techniques of painting. Emphasis is placed on the exploration of expressive content using a variety of creative processes. Upon completion, students should be able to demonstrate competence in the expanded use of form and variety.

ART 244 Watercolor **0 6 3**
Prerequisites: None
Corequisites: None
This course introduces basic methods and techniques used in watercolor. Emphasis is placed on application, materials, content, and individual expression. Upon completion, students should be able to demonstrate a variety of traditional and nontraditional concepts used in watercolor media.

ART 261 Photography I **1 4 3**
Prerequisites: None
Corequisites: None
This course introduces photographic equipment, theory, and processes. Emphasis is placed on camera operation, composition, darkroom technique, and creative expression. Upon completion, students should be able to successfully expose, develop, and print a well-conceived composition.

ART 262 Photography II **1 4 3**
Prerequisites: ART 261
Corequisites: None
This course introduces the creative manipulation of alternative photographic materials and processes such as toning, hand coloring, infrared, and multiple exposure. Emphasis is placed on personal vision and modes of seeing. Upon completion, students should be able to create properly exposed images using a variety of photographic materials and processes.

ART 271 Computer Art II **1 4 3**
Prerequisites: ART 171
Corequisites: None
This course includes advanced computer imaging techniques. Emphasis is placed on creative applications of digital technology. Upon completion, students should be able to demonstrate command of computer systems and applications to express their personal vision.

ART 281 Sculpture I **0 6 3**
Prerequisites: ART 132
Corequisites: None
This course provides an exploration of the creative and technical methods of sculpture with focus on the traditional processes. Emphasis is placed on developing basic skills as they pertain to three-dimensional expression in various media. Upon completion, students should be able to show competence in variety of sculptural approaches.

ART 289 Museum Study **2 2 3**
Prerequisites: None
Corequisites: None
This course introduces research methods in the museum setting. Emphasis is placed on the chronology, styles, periods, context, and meaning in art. Upon completion, students should be able to demonstrate the advantage of first-hand and on-site research.

Astronomy

AST 111 Descriptive Astronomy 3 0 3
Prerequisites: None
Corequisites: AST 111A

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

AST 111A Descriptive Astronomy Lab 0 2 1
Prerequisites: None
Corequisites: AST 111

The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

Automation Training

***ATR 112 Introduction to Automation 2 3 3**
Prerequisites: None
Corequisites: None

This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

Automotive

***AUT 110 Introduction to Automotive Technology 2 2 3**
Prerequisites: None
Corequisites: None

This course covers the basic concepts and terms of automotive technology, workplace safety, North Carolina state inspection, safety and environmental regulations, and use of service information resources. Topics include familiarization with components along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe terms associated with automobiles, identify and use basic tools and shop equipment, and conduct North Carolina safety/emissions inspections.

***AUT 113 Automotive Servicing** **2 6 4**
Prerequisites: None
Corequisites: None

This course covers diagnostic procedures necessary to determine the nature and cause of auto service problems and the procedures used to repair/replace components. Emphasis is placed on troubleshooting, testing, adjusting, repairing, and replacing components using appropriate test equipment and service information. Upon completion, students should be able to perform a variety of automotive repairs using proper service procedures and operate appropriate equipment.

***AUT 115 Engine Fundamentals** **2 3 3**
Prerequisites: None
Corequisites: None

This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis/repair of automotive engines using appropriate tools, equipment, procedures, and service information.

***AUT 141 Suspension & Steering Systems** **2 4 4**
Prerequisites: None
Corequisites: None

This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair various steering and suspension components, check and adjust various alignment angles, and balance wheels.

***AUT 151 Brake Systems** **2 2 3**
Prerequisites: None
Corequisites: None

This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.

***AUT 152 Brake Systems Lab** **0 2 1**
Prerequisites: None
Corequisites: AUT 151

This course provides a laboratory setting to enhance brake system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 151. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 151.

***AUT 161 Electrical Systems** **2 6 4**
Prerequisites: None
Corequisites: None

This course covers basic electrical theory and wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, alternators, and basic electrical accessories. Topics include diagnosis and repair of battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components of an automobile.

*AUT 162 Chassis Electrical and Electronics 2 2 3

Prerequisites: None
Corequisites: None

This course covers electrical/electronic diagnosis/repair, including wiring diagrams, instrumentation, and electronic/computer-controlled devices and accessories. Topics include interpreting wiring diagrams and diagnosis and repair of chassis electrical and electronic systems. Upon completion, students should be able to read and interpret wiring diagrams and determine/perform needed repairs on chassis electrical and electronic systems.

*AUT 163 Chassis Electrical and Electronics Lab 0 2 1

Prerequisites: None
Corequisites: AUT 162

This course provides a laboratory setting to enhance chassis electrical and electronic system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 162. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 162.

*AUT 171 Heating and Air Conditioning 2 3 3

Prerequisites: None
Corequisites: None

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.

*AUT 181 Engine Performance-Electrical 2 3 3

Prerequisites: None
Corequisites: None

This course covers the principles, systems, and procedures required for diagnosing and restoring engine performance using electrical/electronics test equipment. Topics include procedures for diagnosis and repair of ignition, emission control, and related electronic systems. Upon completion, students should be able to describe operation of and diagnose/repair ignition/emission control systems using appropriate test equipment and service information.

*AUT 182 Engine Performance-Electrical Lab 0 3 1

Prerequisites: None
Corequisites: AUT 181

This course provides a laboratory setting to enhance the skills for diagnosing and restoring engine performance using electrial/electronics test equipment. Emphasis is placed on practical experiences that enhance the topics presented in AUT 181. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 181.

*AUT 183 Engine Performance-Fuels 2 3 3

Prerequisites: None
Corequisites: None

This course covers the principles of fuel delivery/management, exhaust/emission systems, and procedures for diagnosing and restoring engine performance using appropriate test equipment. Topics include procedures for diagnosis/repair of fuel delivery/management and emission systems using appropriate service information. Upon completion, students should be able to describe, diagnose, and repair engine fuel delivery/management and emission control systems using appropriate service information and diagnostic equipment.

***AUT 184 Engine Performance-Fuels Lab** **0 3 1**
Prerequisites: None
Corequisites: AUT 181
This course provides a laboratory setting to enhance the skills for diagnosing and repairing fuel delivery/maagement and emission systems. Emphasis is placed on practical experiences that enhance the topics presented in AUT 183. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 183.

***AUT 221 Automatic Transmissions** **2 6 4**
Prerequisites: None
Corequisites: None
This course covers operation, diagnosis, service, and repair of automatic transmissions/ transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair automatic drive trains.

***AUT 231 Manual Drive Trains/Axles** **2 3 3**
Prerequisites: None
Corequisites: None
This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, driveshafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.

***AUT 232 Manual Drive Trains/Axles Lab** **0 3 1**
Prerequisites: None
Corequisites: AUT 231
This course provides a laboratory setting to enhance the skills for diagnosing and repairing manual transmissions/transaxles, clutches, driveshafts, axles, and final drives. Emphasis is placed on practical experiences that enhance the topics presented in AUT 231. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 231.

Biology

BIO 090 Foundations of Biology **3 2 4**
Prerequisites: None
Corequisites: RED 090
This course introduces basic biological concepts. Topics include basic biochemistry, cell structure and function, interrelationships among organisms, scientific methodology, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level biology courses.

BIO 094 Concepts of Human Biology **3 2 4**
Prerequisites: None
Corequisites: RED 090
This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology courses.

BIO 100 **Introduction to Biology** **3 2 4**
Prerequisites: None
Corequisites: None
This course is a survey of general biological principles and introduces basic biological laboratory skills. Topics include the molecular and cellular basis of life, bioenergetics, homeostasis, reproduction, genetics, ecology, and evolution. Upon completion, students should be able to articulate an understanding of the general principles of biology and to demonstrate basic laboratory skills. *This is a certificate and diploma level course.*

BIO 106 **Introduction to Anatomy/Physiology/Microbiology** **2 2 3**
Prerequisites: None
Corequisites: None
This course covers the fundamental and principle concepts of human anatomy and physiology and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and describe microorganisms and their significance in health and disease. *This is a certificate and diploma level course.*

BIO 110 **Principles of Biology** **3 3 4**
Prerequisites None
Corequisites: None
This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

BIO 111 **General Biology I** **3 3 4**
Prerequisites None
Corequisites: None
This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

BIO 112 **General Biology II** **3 3 4**
Prerequisites: BIO 111
Corequisites: None
This course is a continuation of BIO 111. Emphasis is placed on organisms, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

BIO 120 Introductory Botany **3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

BIO 130 Introductory Zoology **3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

BIO 143 Field Biology Minicourse **1 2 2**

Prerequisites: None

Corequisites: None

This course introduces the biological and physical components of a field environment. Emphasis is placed on a local field environment with extended field trips to other areas. Upon completion, students should be able to demonstrate an understanding of the biological and physical components of the specific biological environment.

BIO 145 Ecology **3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to ecological concepts using an ecosystems approach. Topics include energy flow, nutrient cycling, succession, population dynamics, community structure, and other related topics. Upon completion, students should be able to demonstrate comprehension of basic ecosystem structure and dynamics.

BIO 146 Regional Natural History **3 3 4**

Prerequisites: None

Corequisites: None

This course is an interdisciplinary and historical analysis of the natural resources of the region. Emphasis is placed on geology, climate, forest systems, watersheds, water resources, and fish and wildlife resources of the region. Upon completion, students should be able to demonstrate comprehension of the natural history and the integration of the natural resources of the region.

BIO 163 Basic Anatomy and Physiology 4 2 5
Prerequisites: None
Corequisites: None
This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships.

BIO 168 Anatomy and Physiology I 3 3 4
Prerequisites: None
Corequisites: None
This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, nervous, special senses, and endocrine systems. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.

BIO 169 Anatomy and Physiology II 3 3 4
Prerequisites: BIO 168
Corequisites: None
This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.

BIO 175 General Microbiology 2 2 3
Prerequisites: BIO 110, BIO 163, BIO 166, or BIO 169
Corequisites: None
This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques.

BIO 223 Field Botany 2 3 3
Prerequisites: BIO 112
Corequisites: None
This course provides a field and laboratory study of local flora. Emphasis is placed on local flora classification, identification, and ecology by the use of keys and field studies. Upon completion, students should be able to use keys for the classification and identification of local flora and to demonstrate an understanding of plant ecology.

BIO 224 Local Flora Spring 1 2 2
Prerequisites: None
Corequisites: None
This course provides an introduction to the identification of native plants. Emphasis is placed on spring wild flowers. Upon completion, students should be able to identify a variety of spring wild flowers and native plants.

BIO 226 Local Flora Fall 1 2 2
Prerequisites: None
Corequisites: None
This course provides an introduction to the identification of native plants. Emphasis is placed on fall wild flowers. Upon completion, students should be able to identify a variety of fall wild flowers and native plants.

BIO 275 Microbiology 3 3 4
Prerequisites: BIO 110, BIO 163, BIO 165, or BIO 168
Corequisites: None
This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms.

Blueprint Reading

BPR 111 Blueprint Reading 1 2 2
Prerequisites: None
Corequisites: None
This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part.

BPR 121 Blueprint Reading: Mechanical 1 2 2
Prerequisites: BPR 111 or MAC 131
Corequisites: None
This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

BPR 123 Die/Mold Print Reading 1 3 2
Prerequisites: BPR 121or MAC 132
Corequisites: None
This course covers differences between production drawings and tooling drawings as they relate to stamping dies and plastic molding. Emphasis is placed on the layout of assembly drawings in tooling and their related detail prints. Upon completion, students should be able to identify individual tooling components and their relationships on a blueprint.

BPR 130 Blueprint Reading/Construction 1 2 2
Prerequisites: None
Corequisites: None
This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BPR 135 Schematics and Diagrams 2 0 2
Prerequisites: None
Corequisites: None
This course introduces schematics and diagrams used in a variety of occupations. Topics include interpretation of wiring diagrams, assembly drawings, exploded views, sectional drawings, and service manuals, specifications, and charts. Upon completion, students should be able to research and locate components and assemblies denoting factory specifications and requirements from service and repair manuals.

Business Administration

BUS 110 Introduction to Business 3 0 3
Prerequisites: None
Corequisites: None
This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects.

BUS 115 Business Law I 3 0 3
Prerequisites: None
Corequisites: None
This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.

BUS 116 Business Law II 3 0 3
Prerequisites: BUS 115
Corequisites: None
This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.

BUS 135 Principles of Supervision 3 0 3
Prerequisites: None
Corequisites: None
This course introduces the basic responsibilities and duties of the supervisor and his/her relationship to higher-level supervisors, subordinates, and associates. Emphasis is placed on effective utilization of the work force and understanding the role of the supervisor. Upon completion, students should be able to apply supervisory principles in the workplace.

***BUS 137 Principles of Management** 3 0 3
Prerequisites: None
Corequisites: None
This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management.

BUS 147 Business Insurance **3 0 3**
Prerequisites: None
Corequisites: None
This course surveys the basic concepts of risk management. Topics include principles and applications of health, property, life, and casualty insurance. Upon completion, students should be able to evaluate different insurance needs and assist an organization in acquiring adequate insurance coverage.

BUS 153 Human Resources Management **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.

BUS 225 Business Finance **2 2 3**
Prerequisites: ACC 120
Corequisites: None
This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management.

BUS 230 Small Business Management **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the challenges of entrepreneurship including the startup and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon completion, students should be able to develop a small business plan.

***BUS 239 Business Applications Seminar** **1 2 2**
Prerequisites: ACC 120, BUS 115, BUS 137, MKT 120, and either ECO 151, 251 or 252
Corequisites: None
This course is designed as a capstone course for Business Administration majors. Emphasis is placed on decision making in the areas of management, marketing, production, purchasing, and finance. Upon completion, students should be able to apply the techniques, processes, and vital professional skills needed in the workplace.

BUS 240 Business Ethics **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society.

BUS 260 Business Communication 3 0 3
Prerequisites: ENG 111 and OST 130 or OST 131
Corequisites: None
This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the workplace.

BUS 270 Professional Development 3 0 3
Prerequisites: None
Corequisites: None
This course provides basic knowledge of self-improvement techniques as related to success in the professional world. Topics include positive human relations, job-seeking skills, and projecting positive self-image. Upon completion, students should be able to demonstrate competent personal and professional skills necessary to get and keep a job.

Cabinetmaking

CAB 111 Cabinetmaking I 4 9 7
Prerequisites: None
Corequisites: None
This course introduces wood technology, materials, purchasing, estimating, design considerations, and cabinet construction. Topics include wood identification and use, hand tools, safe machine operation, glue and clamping, abrasives, wood joinery, kitchen and bath layout, laminates, and finishing techniques. Upon completion, students should be able to select and process materials; make sound production decisions; and design, lay out, construct, and install cabinets. This is a diploma-level course.

Carpentry

CAR 111 Carpentry I 4 15 9
Prerequisites: None
Corequisites: None
This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision. This is a diploma-level course.

CAR 112 Carpentry II 4 15 9
Prerequisites: CAR 111
Corequisites: None
This course covers the advanced theory and construction methods associated with the building industry including framing and exterior finishes. Topics include safety, hand/power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision. This is a diploma-level course.

CAR 113 Carpentry III **3 9 6**
Prerequisites: CAR 111
Corequisites: None
This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision. This is a diploma-level course.

CAR 115 Residential Planning/Estimating **3 0 3**
Prerequisites: BPR 130
Corequisites: None
This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity take-offs and cost estimates.

Chemistry

CHM 121 Foundations of Chemistry **3 0 3**
Prerequisites: RED 090 or CPT Score Equivalent
Corequisites: CHM 121A & MAT 080 or CPT Score Equivalent
This course is designed for those who have no previous high school chemistry or a grade of C or less in high school chemistry. Topics include matter, structure of the atom, nomenclature, chemical equations, bonding and reactions; mathematical topics include measurements, scientific notation, and stoichiometry. Upon completion, students should be able to demonstrate an understanding of chemical concepts and an ability to solve related problems in subsequent chemistry courses.

CHM 121A Foundations of Chemistry Laboratory **0 2 1**
Prerequisites: None
Corequisites: CHM 121
This course is a laboratory for CHM 121. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 121. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 121.

CHM 130 General, Organic, and Biochemistry **3 0 3**
Prerequisites: High School Chemistry or CHM 121 & CHM 121A
Corequisites: CHM 130A
This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts.

CHM 130A General, Organic, and Biochemistry Lab **0 2 1**
Prerequisites: None
Corequisites: CHM 130
This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130.

CHM 132 Organic and Biochemistry **3 3 4**
Prerequisites: CHM 151
Corequisites: None
This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CHM 135 Survey of Chemistry I **3 2 4**
Prerequisites: CPT Scores or Courses equivalent to those required for entrance into ENG 111 and MAT 161.
Corequisites: None
This course provides an introduction to inorganic chemistry. Emphasis is placed on measurement, atomic structure, bonding, molecular geometry, nomenclature, reactions, the mole concept, stoichiometric calculations, states of matter, and the gas laws. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This introductory course series to chemistry emphasizes the practical impact of chemistry and scientific reasoning on society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CHM 136 Survey of Chemistry II **3 2 4**
Prerequisites: CHM 135
Corequisites: None
This course is a continuation of CHM 135 with further study of inorganic reactions and an introduction to organic, biological, and nuclear chemistry. Topics include solutions, acid-base theory, redox reactions, chemical kinetics, organic chemistry, biochemistry, and nuclear chemistry. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This introductory course series to chemistry emphasizes the practical impact of chemistry and scientific reasoning on society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CHM 151 General Chemistry I **3 3 4**
Prerequisites: High School Chemistry or CHM 121 & CHM 121A
Corequisites: MAT 161 OR 171
This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CHM 152 General Chemistry II **3 3 4**
Prerequisites: CHM 151
Corequisites: None
This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CHM 251 Organic Chemistry I **3 3 4**
Prerequisites: CHM 152
Corequisites: None
This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252.

CHM 252 Organic Chemistry II **3 3 4**
Prerequisites: CHM 251
Corequisites: None
This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields.

CHM 261 Quantitative Analysis **2 6 4**
Prerequisites: CHM 152
Corequisites: None
This course introduces classical methods of chemical analysis with an emphasis on laboratory techniques. Topics include statistical data treatment; stoichiometric and equilibrium calculations; and titrimetric, gravimetric, acid-base, oxidation-reduction, and compleximetric methods. Upon completion, students should be able to perform classical quantitative analytical procedures.

CHM 263 Analytical Chemistry **3 4 5**
Prerequisites: CHM 152
Corequisites: None
This course covers the knowledge and laboratory skills needed to perform chemical analysis. Emphasis is placed on developing laboratory techniques used in the separation, identification, and quantification of selected substances. Upon completion, students should be able to perform laboratory techniques employed in substance identification and volumetric analysis and interpret the results.

CHM 265 Instrumental Analysis **2 6 4**
Prerequisites: CHM 251
Corequisites: None
This course introduces modern instrumental and chromatographic methods. Topics include methods of chromatographic, spectral, and electrochemical analysis which will provide theory of instrumentation, interpretation, and statistical evaluation of analytical data with practical applications. Upon completion, students should be able to perform quantitative analytical procedures using modern instrumentation.

CHM 271 Biochemical Principles **3 0 3**
Prerequisites: CHM 252
Corequisites: None
The course covers fundamental principles of biochemistry. Topics include structures, properties, reactions, and mechanisms of biomacromolecules including amino acids, peptides, proteins, carbohydrates and nucleic acids, enzymatic metabolic pathways, and biochemical genetics. Upon completion, students should be able to demonstrate an understanding of fundamental biochemical processes.

Information Systems

CIS 110 Introduction to Computers **2 2 3**
Prerequisites: OST 080 or OST 131 or tested computer keyboarding proficiency at a minimum of 20 wam
Corequisites: None
This course provides an introduction to computers and computing. Topics include the impact of computers on society, ethical issues, and hardware/software applications, including spreadsheets, databases, word processors, graphics, the Internet, and operating systems. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. A popular business suite of application software will be used.

CIS 111 Basic PC Literacy **1 2 2**
Prerequisites: OST 080 or OST 131 or tested computer keyboarding proficiency at a minimum of 20 wam
Corequisites: None
This course provides a brief overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. *This course is intended for those who have not received credit for CIS 110.*

CIS 112 Windows™ **1 2 2**
Prerequisites: CIS 110 or CIS 111
Corequisites: None
This course includes the fundamentals of the Windows™ software. Topics include graphical user interface, icons, directories, file management, accessories, and other applications. Upon completion, students should be able to use Windows™ software in an office environment.

CIS 113 Computer Basics **0 2 1**
Prerequisite: OST 080 or OST 131 or tested computer keyboarding proficiency at a minimum of 20 wam
Corequisites: None
This course introduces basic computer usage for non-computer majors. Emphasis is placed on developing basic personal computer skills. Upon completion, students should be able to demonstrate competence in basic computer applications sufficient to use computer-assisted instructional software.

CIS 115 Introduction to Programming and Logic 2 2 3
Prerequisites: CIS 110
Corequisites: None
This course introduces computer programming and problem solving in a programming environment, including an introduction to operating systems, text editor, and a language translator. Topics include language syntax, data types, program organization, problem-solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. Applications will be developed using Visual Basic.

CIS 120 Spreadsheet I 2 2 3
Prerequisites: CIS 110
Corequisites: None
This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts.

CIS 130 Survey of Operating Systems 2 3 3
Prerequisites: CIS 110 or CIS 111
Corequisites: None
The course covers operating system concepts which are necessary for maintaining and using computer systems. Topics include disk, file, and directory structures; installation and setup; resource allocation, optimization, and configuration; system security; and other related topics. Upon completion, students should be able to install and configure operating systems and optimize performance.

CIS 148 Operating System - Windows™ NT 2 2 3
Prerequisites: CIS 110 or CIS 111
Corequisites: None
This course introduces operating systems concepts for the Windows™ NT operating system. Topics include hardware management, file and memory management, system configuration/optimization, networking options, and utilities. Upon completion, students should be able to perform operating system functions at the single/multi-user support level in a Windows™ NT environment.

CIS 152 Database Concepts and Applications 2 2 3
Prerequisites: CIS 110
Corequisites: None
This course introduces database design and creation using a database management systems product. Topics include database terminology, usage in industry, design theory, types of DBMS models, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to create simple database tables, queries, reports, and forms which follow acceptable design practices.

CIS 157 Database Programming I 2 2 3
Prerequisites: CIS 130 and CIS 152
Corequisites: None
This course is designed to develop programming proficiency in a selected DBMS. Emphasis is placed on the Data Definition Language (DDL) and Data Manipulation Language (DML) of the DBMS as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports representative of industry requirements.

CIS 165 Desktop Publishing I 2 2 3
Prerequisites: CIS 110 and OST 136
Corequisites: None
This course provides an introduction to desktop publishing software capabilities. Emphasis is placed on efficient use of a page layout software package to create, design, and print publications; hardware/software compatibility; and integration of specialized peripherals. Upon completion, students should be able to prepare publications given design specifications.

CIS 215 Hardware Installation and Maintenance 2 3 3
Prerequisites: CIS 110 and CIS 130
Corequisites: None
This course covers the basic hardware of a personal computer, including operations and interactions with software. Topics include component identification, the memory system, peripheral installation and configuration, preventive maintenance, and diagnostics and repair. Upon completion, students should be able to select appropriate computer equipment, upgrade and maintain existing equipment, and troubleshoot and repair non-functioning personal computers.

CIS 216 Software Installation and Maintenance 1 2 2
Prerequisites: CIS 110 and CIS 130
Corequisites: None
This course introduces the installation and troubleshooting aspects of personal computer software. Emphasis is placed on initial installation and optimization of system software, commercial programs, system configuration files, and device drivers. Upon completion, students should be able to install, upgrade, uninstall, optimize, and troubleshoot personal computer software.

***CIS 217 Computer Training and Support** 2 2 3
Prerequisites: CIS 110, CIS 130 and OST 136
Corequisites: None
This course introduces computer training and support techniques. Topics include methods of adult learning, training design, delivery, and evaluation, creating documentation, and user support methods. Upon completion, students should be able to design and implement training and provide continued support for computer users.

***CIS 226 Trends in Technology** 1 2 2
Prerequisites: CIS 110 and second year status
Corequisites: None
This course introduces emerging information systems technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems.

CIS 244 Operating System - AS/400 2 3 3
Prerequisites: CIS 130
Corequisites: None
This course includes operating systems concepts for AS/400 systems. Topics include hardware management, file and memory management, system configuration/optimization, utilities, Job Control Language, and support functions. Upon completion, students should be able to perform operating system functions in an AS/400 environment.

CIS 245 Operating System - Multi-User 2 3 3
Prerequisites: CIS 130
Corequisites: None
This course includes operating systems concepts for multi-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating system functions in a multi-user environment.

CIS 246 Operating System - UNIX 2 3 3
Prerequisites: CIS 130
Corequisites: None
This course includes operating systems concepts for UNIX operating systems. Topics include hardware management, file and memory management, system configuration/optimization, utilities, and other related topics. Upon completion, students should be able to effectively use the UNIX operating system and its utilities.

CIS 286 Systems Analysis and Design 3 0 3
Prerequisites: CIS 110, CIS 115 and CIS 152
Corequisites: None
This course examines established and evolving methodologies for the analysis, design, and development of a business information system. Emphasis is placed on business systems characteristics, managing information systems projects, prototyping, CASE tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

***CIS 288 Systems Project 1 4 3**
Prerequisites: CIS 286 and second year status
Corequisite: ENG 114
This course provides an opportunity to complete a significant systems project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation.

***CIS 293 Selected Topics in Information Systems 2 2 3**
Prerequisites: CIS 110 and second year status
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. Workplace issues of computer professionals will be examined.

Civil Engineering

CIV 110 Statics/Strength of Materials 2 6 4
Prerequisites: MAT 121
Corequisites: None
This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.

CIV 111 Soils and Foundations 2 3 3
Prerequisites: CIV 110 or MEC 250
Corequisites: None
This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction, dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil.

CIV 125 Civil/Surveying CAD 1 6 3
Prerequisites: CIS 111, EGR 115, and SRV 110
Corequisites: None
This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software.

CIV 210 Engineering Materials 1 3 2
Prerequisites: None
Corequisites: None
This course covers the behavior and properties of Portland cement and asphaltic concretes and laboratory and field testing. Topics include cementing agents and aggregates; water and admixtures; proportioning, production, placing, consolidation, and curing; and inspection methods. Upon completion, students should be able to proportion concrete mixes to attain predetermined strengths and other properties and perform standard control tests.

CIV 211 Hydraulics and Hydrology 2 3 3
Prerequisites: CIV 110 or MEC 250
Corequisites: None
This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures

CIV 212 Environmental Planning 2 3 3
Prerequisites: CIV 211
Corequisites: None
This course covers water and wastewater technology, erosion and sedimentation control, and other related topics. Topics include collection, treatment, and distribution of water and wastewater and erosion and sedimentation control law. Upon completion, students should be able to demonstrate knowledge of water and wastewater systems and prepare erosion and sedimentation control plans.

CIV 215 Highway Technology 1 3 2
Prerequisites: SRV 111
Corequisites: CIV 211
This course introduces the essential elements of roadway components and design. Topics include subgrade and pavement construction, roadway drawings and details, drainage, superelevation, and North Carolina Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details.

CIV 220 Basic Structural Concepts **1 3 2**
Prerequisites: CIV 110 or MEC 250
Corequisites: None
This course covers the historical perspective of structures as well as types, materials, common elements, and mechanical principles of structures. Topics include basic structure shapes, advantages and disadvantages of standard building materials, application of structural concepts, and other related topics. Upon completion, students should be able to demonstrate an understanding of basic structural concepts.

CIV 221 Steel and Timber Design **2 3 3**
Prerequisites: CIV 110 or MEC 250
Corequisites: None
This course introduces the basic elements of steel and timber structures. Topics include the analysis and design of steel and timber beams, columns, and connections and the use of appropriate manuals and codes. Upon completion, students should be able to analyze, design, and draw simple steel and timber structures.

CIV 222 Reinforced Concrete **2 3 3**
Prerequisites: CIV 110 or MEC 250
Corequisites: None
This course introduces the basic elements of reinforced concrete and masonry structures. Topics include analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls; load-bearing masonry walls; and ACI manuals and codes. Upon completion, students should be able to analyze and design components of a structure using reinforced concrete and masonry elements and utilize appropriate ACI publications.

CIV 230 Construction Estimating **2 3 3**
Prerequisites: CIS 111 and EGR 115
Corequisites: None
This course covers quantity take-offs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project.

CIV 240 Project Management **2 3 3**
Prerequisites: EGR 115
Corequisites: None
This course introduces construction planning and scheduling techniques and project management software. Topics include construction safety, operation analysis, construction scheduling, construction control systems, claims and dispute resolutions, project records, and documentation. Upon completion, students should be able to demonstrate an understanding of the roles of construction project participants, maintain construction records, and prepare construction schedules.

CIV 250 Civil Engineering Technology Project **1 3 2**
Prerequisites: Successful completion of three semesters of the Civil Engineering Technology program
Corequisites: None
This course includes an integrated team approach to civil engineering technology projects. Emphasis is placed on project proposal, site selection, analysis/design of structures, construction material selection, time and cost estimating, planning, and management of a project. Upon completion, students should be able to apply team concepts, prepare estimates, submit bid proposals, and manage projects.

Criminal Justice

CJC 100 Basic Law Enforcement Training **9 27 18**
Prerequisites: None
Corequisites: None
This course covers the skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Emphasis is placed on topics and areas as defined by the North Carolina Administrative Code. Upon completion, students should be able to demonstrate competence in the topics and areas required for the state comprehensive examination. *This is a certificate-level course.*

CJC 111 Introduction to Criminal Justice **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options.

CJC 112 Criminology **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

CJC 113 Juvenile Justice **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.

CJC 114 Investigative Photography **1 2 2**
Prerequisites: None
Corequisites: None
This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques.

CJC 121 Law Enforcement Operations 3 0 3
Prerequisites: None
Corequisites: None

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. There will be an emphasis on practical skills.

CJC 122 Community Policing 3 0 3
Prerequisites: None
Corequisites: None

This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing.

CJC 131 Criminal Law 3 0 3
Prerequisites: None
Corequisites: None

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements. There will be an emphasis on North Carolina law.

CJC 132 Court Procedure and Evidence 3 0 3
Prerequisites: None
Corequisites: None

This course covers judicial structure/process, procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

CJC 151 Introduction to Loss Prevention 3 0 3
Prerequisites: None
Corequisites: None

This course introduces the concepts and methods related to commercial and private security systems. Topics include the historical, philosophical, and legal basis of security, with emphasis on security surveys, risk analysis, and associated functions. Upon completion, students should be able to demonstrate and understand security systems, risk management, and the laws relative to loss prevention.

CJC 211 Counseling 3 0 3
Prerequisites: None
Corequisites: None

This course introduces the basic elements of counseling and specific techniques applicable to the criminal justice setting. Topics include observation, listening, recording, interviewing, and problem exploration necessary to form effective helping relationships. Upon completion, students should be able to discuss and demonstrate the basic techniques of counseling.

CJC 212 Ethics and Community Relations **3 0 3**
Prerequisites: None
Corequisites: None
This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to demonstrate the ability to apply ethical considerations to the decision-making process in identifiable criminal justice situations.

CJC 213 Substance Abuse **3 0 3**
Prerequisites: None
Corequisites: None
This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities. Drug enforcement programs and techniques will be discussed.

CJC 214 Victimology **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs.

CJC 215 Organization and Administration **3 0 3**
Prerequisites: CJC 111
Corequisites: None
This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

CJC 221 Investigative Principles **3 2 4**
Prerequisites: CJC 131
Corequisites: None
This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

CJC 222 Criminalistics **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence. An emphasis will be placed on current technology for collection and classification of fingerprint evidence.

CJC 231 Constitutional Law **3 0 3**
Prerequisites: None
Corequisites: None
The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts.

CJC 232 Civil Liability **3 0 3**
Prerequisites: None
Corequisites: None
This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues. Section 1983 will be specifically discussed.

Cooperative Education

***COE 111 EC Co-op Work Experience I** **0 0 10 1**
Prerequisites: EDU 111
Corequisites: COE 115 EC
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. This supervised experience gives the student an opportunity to apply age-appropriate principles of child development, relationships, and learning in a child care environment

***COE 111 SS Co-op Work Experience I** **0 0 10 1**
Prerequisites: Departmental Approval
Corequisites: None
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Intended for students in the Social Service Associate program.

***COE 112 A Co-op Work Experience I** 0 0 20 2

Prerequisites: Departmental Approval
Corequisites: None

This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. For Automotive Systems Technology students only.

***COE 113 A Co-op Work Experience I** 0 0 30 3

Prerequisites: Departmental Approval
Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. For Automotive Systems Technology students only.

***COE 113 CU Co-op Work Experience I** 0 0 30 3

Prerequisites: Completed first year of curriculum
Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. The practical culinary training experience provides the student an opportunity to apply and enhance the skills and methodologies of the professional culinarian.

***COE 114 HR Co-op Work Experience I** 0 0 40 4

Prerequisites: Completed first year of curriculum
Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. The practical hospitality in-field training experience provides the student an opportunity to apply and enhance skills and methodologies required of the hospitality professional.

***COE 115 EC Work Experience Seminar I** 1 0 0 1

Prerequisites: EDU 111
Corequisites: COE 111 EC

This course provides students with an opportunity to evaluate experiences in the child care setting and discuss curriculum components. Emphasis is placed on planning and carrying out developmentally appropriate activites. Upon completion, students should be able to plan, conduct, and evaluate educational experiences in the early childhood setting.

***COE 115 HR Work Experience Seminar I** **1 0 0 1**
Prerequisites: Completed first year of curriculum
Corequisites: COE 114HR
This course is a seminar to accompany COE 114HR. Emphasis is placed on student analysis, evaluation, and integration of management styles observed during the co-op work experience. Upon completion, the student should be prepared to adopt the "management point of view" and have developed a more focused career direction. Students also explore current topics and skills in the hotel and restaurant industry that do not lend themselves to the traditional classroom environment.

***COE 115 SS Work Experience Seminar I** **1 0 0 1**
Prerequisites: Departmental Approval
Corequisites: None
This course provides a forum for students to share information on their social service agency work experience. Emphasis is placed upon relating classroom concepts to the work experience. Upon completion, the student will demonstrate an understanding of the nature of various agency work environments.

***COE 121 EC Co-op Work Experience II** **0 0 10 1**
Prerequisites: COE 111 EC and COE 115 EC or Departmental approval
Corequisites: COE 125 EC
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Students will demonstrate care-giving skills including managing children's behavior and meeting individual needs in a child care setting chosen by the department.

***COE 121 SS Co-op Work Experience II** **0 0 10 1**
Prerequisites: COE 111 SS
Corequisites: None
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Intended for students enrolled in the Social Services program.

COE 123 A Co-op Work Experience II **0 0 30 3**
Prerequisites: Departmental Approval
Corequisites: None
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. For Automotive Systems Technology students only.

***COE 125 EC Work Experience Seminar II** **1 0 0 1**
Prerequisites: COE 111 EC and COE 115 EC
Corequisites: COE 121 EC
This course provides an opportunity for students to plan and evaluate educational activites in their co-op experience. Emphasis is placed on planning developmentally appropriate activities for young children. Upon completion, students should be able to plan, carry out and evaluate developmentally appropriate activities for young children.

***COE 125 SS Work Experience Seminar II** **1 0 0 1**
Prerequisites: COE 115 SS
Corequisites: COE 121 SS, COE 122, COE 123, or COE 124
This course provides a forum for students to share information on their agency work experience. Emphasis is placed upon relating classroom concepts to the work experience. Upon completion, the student will demonstrate an understanding of the nature of various agency work environments. Intended for students enrolled in the Social Services program.

***COE 131 EC Co-op Work Experience III** **0 0 10 1**
Prerequisites: Successful completion of first four semesters of EDU or departmental approval
Corequisites: COE 135 EC
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. In this capstone course, students must demonstrate the competencies needed by an Early Childhood Associate and identified for the program.

***COE 135 EC Work Experience Seminar III** **1 0 0 1**
Prerequisites: COE 121 EC and COE 125 EC
Corequisites: COE 131 EC
This course provides an opportunity for the student to discuss topics related to their co-op experience and prepare to go into the workforce. Emphasis is placed on conducting a developmentally appropriate program, resume writing, and job interviewing skills. Upon completion, the student should be able to perform work related competencies in working with young children.

COE 211 OS Co-op Work Experience IV **0 0 10 1**
Prerequisites: Departmental Approval
Corequisites: COE 215 OS
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. The cooperative experience will allow the student to apply skills learned in Office Systems Technology courses to on-the-job work experience.

COE 212 IS Co-op Work Experience IV **0 0 20 2**
Prerequisites: Departmental Approval
Corequisites: None
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. The cooperative experience will allow the student to apply skills learned in Information Systems courses to on-the-job work experience.

COE 215 OS Work Experience Seminar IV **1 0 0 1**
Prerequisites: Departmental Approval
Corequisites: COE 211 OS
The working student will discuss issues related to Office Systems Technology careers. Problems encountered in the workplace will be discussed as well as solutions.

Communications

COM 231 Public Speaking **3 0 3**
Prerequisites: None
Corequisites: None
This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communications.*

Information Systems - Programming

CSC 134 C++ Programming **2 3 3**
Prerequisites: None
Corequisites: None
This course introduces object-oriented computer programming using the C++ programming language. Topics include input/output operations, iterations, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test, and debug C++ language programs.

CSC 135 COBOL Programming **2 3 3**
Prerequisites: CIS 115
Corequisites: None
This course introduces computer programming using the COBOL programming language. Topics include input/output operations, sequence selection, iteration, arithmetic operations, arrays/tables, and other related topics. Upon completion, students should be able to design, code, test and debug COBOL language programs.

CSC 138 RPG Programming **2 3 3**
Prerequisites: CIS 115
Corequisites: None
This course introduces computer programming using the RPG programming language. Topics include input/output operations, sequence selection, iteration, arithmetic operations, arrays/tables, and other related topics. Upon completion, students should be able to design, code, test and debug RPG language programs.

CSC 143 Object-Oriented Programming **2 3 3**
Prerequisites: CIS 115
Corequisites: None
This course introduces the concepts of object-oriented programming. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, student should be able to design, test, debug, and implement objects at the application level using the appropriate environment.

CSC 234 Advanced C++ **2 3 3**
Prerequisites: CSC 134
Corequisites: None

This course is a continuation of CSC 134 using C++ with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions. A visual approach will be used. *This course is a unique concentration requirement in the Programming concentration in the Information Systems program.*

CSC 235 Advanced COBOL **2 3 3**
Prerequisites: CSC 135
Corequisites: None

This course is a continuation of CSC 135 using COBOL with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, date structures, subprograms, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions. *This course is a unique concentration requirement in the Programming concentration in the Information Systems program.*

CSC 238 Advanced RPG **2 3 3**
Prerequisites: CSC 138
Corequisites: None

This course is a continuation of CSC 138 using RPG with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, date structures, subprograms, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions. *This course is a unique concentration requirement in the Programming concentration in the Information Systems program.*

Culinary

CUL 110 Sanitation and Safety **2 0 2**
Prerequisites: None
Corequisites: None

This course introduces the basic principles of sanitation and safety and their relationship to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of sanitation and safety procedures in the hospitality industry.

***CUL 110A Sanitation and Safety Lab** **0 2 1**
Prerequisites: None
Corequisites: CUL 110

This course is a laboratory to accompany CUL 110. Emphasis is placed on practical experiences that enhance the materials presented in CUL 110. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry.

CUL 120 Purchasing **2 0 2**
Prerequisites: None
Corequisites: None
This course covers purchasing for hotels and restaurants. Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and foodservice ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.

***CUL 130 Menu Design** **2 0 2**
Prerequisites: CUL 140
Corequisites: None
This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings.

***CUL 135 Food and Beverage Service** **2 0 2**
Prerequisites: HRM Students: None; CUL Students: CUL 180
Corequisites: HRM Students: None; CUL Students: CUL 250, CUL 135A
This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling complaints, and sales and merchandising. Upon completion, students should be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages.

***CUL 135 A Food and Beverage Service Lab** **0 2 1**
Prerequisites: CUL 180
Corequisites: CUL 135, CUL 250
This course is a laboratory to accompany CUL 135. Emphasis is placed on practical experiences that enhance the materials presented in CUL 135. Upon completion, students should be able to demonstrate practical applications of skills required in the service of foods and beverages.

***CUL 140 Basic Culinary Skills** **2 6 5**
Prerequisites: None
Corequisites: CUL 110, Culinary students also need CUL 110 A
This course introduces the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on recipe conversion, measurements, terminology, knife skills, safe food handling, cooking methods, flavorings, seasonings, stocks/sauces/soups, and other related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry.

***CUL 150 Food Science** **1 2 2**
Prerequisites: None
Corequisites: None
This course covers the chemical and physical changes in foods that occur with cooking, handling, and processing. Topics include heat transfer and its effect on color, flavor, and texture; and emulsification, protein coagulation, leavening agents, viscosity, and gel formation. Upon completion, students should be able to demonstrate an understanding of the principles covered as they apply to food preparation in an experimental setting.

***CUL 160 Baking I** **1 4 3**
Prerequisites: CUL 110 and CUL 110A
Corequisites: None
This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products.

***CUL 170 Gardemanger I** **1 4 3**
Prerequisites: None
Corequisites: CUL 110 and CUL 110A
This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces, and related food items. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.

***CUL 180 International and American Regional Cuisine** **1 8 5**
Prerequisites: CUL 140 and CUL 240
Corequisites: None
This course provides practical experience in the planning, preparation, and service of representative foods from different countries and regions of America. Emphasis is placed on eating habits, indigenous foods and customs, nutritional concerns, and traditional equipment. Upon completion, students should be able to research and execute international and domestic menus.

***CUL 240 Advanced Culinary Skills** **1 8 5**
Prerequisites: CUL 140
Corequisites: None
This course is a continuation of CUL 140. Emphasis is placed on meat fabrication and butchery; vegetable, starch, and protein cookery; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items.

***CUL 250 Classical Cuisine** **1 8 5**
Prerequisites: CUL 180, CUL 240, and CUL 270
Corequisites: CUL 135 and CUL 135A
This course reinforces the classical culinary kitchen as established by Escoffier. Topics include the working Grand Brigade of the kitchen, table d'hôte menus, signature dishes, alfresco dining, exhibition cooking, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting. A la carte service will include a contemporary approach to classical preparations.

***CUL 260 Baking II** **1 4 3**
Prerequisites: CUL 110, CUL 110A, and CUL160
Corequisites: None
This course is a continuation of CUL 160. Topics include specialty breads, pastillage, marzipan, chocolate, pulled-sugar, confections, classic desserts, pastries, and cake decorating. Upon completion, students should be able to demonstrate pastry preparation and plating, cake decorating, and show-piece production skills.

***CUL 270 Gardemanager II** **1 4 3**

Prerequisites: CUL 170 and CUL 240

Corequisites: None

This course is a continuation of CUL 170. Topics include pâtés, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapés, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces.

Design Drafting

***DDF 211 Design Drafting I** **2 6 4**

Prerequisites: DFT 112

Corequisites: None

This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

Dental

***DEN 101 Preclinical Procedures** **4 6 0 7**

Prerequisites: None

Corequisites: DEN 111

This course provides instruction in procedures for the clinical dental assistant as specified by the North Carolina Dental Practice Act. Emphasis is placed on orientation to the profession, infection control techniques, instruments, related expanded functions, and diagnostic, operative, and specialty procedures. Upon completion, students should be able to demonstrate proficiency in clinical dental assisting procedures. *This is a diploma-level course.*

***DEN 102 Dental Materials** **3 4 0 5**

Prerequisites: None

Corequisites: DEN 101

This course provides instruction in identification, properties, evaluation of quality, principles, and procedures related to manipulation and storage of operative and specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory. Upon completion, students should be able to demonstrate proficiency in the laboratory and clinical application of routinely used dental materials. *This is a diploma-level course.*

DEN 103 Dental Sciences **2 0 0 2**

Prerequisites: None

Corequisites: None

This course is a study of oral pathology, pharmacology, and dental office emergencies. Topics include oral pathological conditions, dental therapeutics, and management of emergency situations. Upon completion, students should be able to recognize abnormal oral conditions, identify classifications, describe actions and effects of commonly prescribed drugs, and respond to medical emergencies. *This is a diploma-level course.*

***DEN 104 Dental Health Education** **2 2 0 3**
Prerequisites: DEN 101 and DEN 111
Corequisites: DEN 106

This course covers the study of preventative dentistry to prepare dental assisting students for the role of dental health educator. Topics include etiology of dental diseases, preventative procedures, and patient education theory and practice. Upon completion, students should be able to demonstrate proficiency in patient counseling and oral health instruction in private practice or public health settings. *This is a diploma-level course.*

***DEN 105 Practice Management** **2 0 0 2**
Prerequisites: None
Corequisites: None

This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, patient scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. *This is a diploma-level course.*

***DEN 106 Clinical Practice I** **1 0 12 5**
Prerequisites: DEN 101 and DEN 111
Corequisites: DEN 102, DEN 104, and DEN 112

This course is designed to provide experience assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to utilize classroom theory, laboratory, and clinical skills in a dental setting. *This is a diploma-level course.*

***DEN 107 Clinical Practice II** **1 0 12 5**
Prerequisites: DEN 106
Corequisites: None

This course is designed to increase the level of proficiency in assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to combine theoretical and ethical principles necessary to perform entry-level skills including functions delegable to a DA II. *This is a diploma-level course.*

DEN 110 Orofacial Anatomy **2 2 0 3**
Prerequisites: None
Corequisites: None

This course introduces the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to relate the identification of normal structures and development to the practice of dental assisting and dental hygiene.

DEN 111 Infection/Hazard Control **2 0 0 2**
Prerequisites: None
Corequisites: DEN 101 or DEN 121

This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. Topics include microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSHA standards, and applicable North Carolina laws. Upon completion, students should be able to understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA standards, and applicable North Carolina laws.

DEN 112 Dental Radiography **2 3 0 3**

Prerequisites: Enrollment in the Dental Hygiene or Dental Assisting programs
Corequisites: DEN 100 or DEN 110 and DEN 111

This course provides a comprehensive view of the principles and procedures of radiology as they apply to dentistry. Topics include techniques in exposing, processing, and evaluating radiographs, as well as radiation safety, quality assurance, and legal issues. Upon completion, students should be able to demonstrate proficiency in the production of diagnostically acceptable radiographs using appropriate safety precautions.

DEN 120 Dental Hygiene Preclinic Lec **2 0 0 2**

Prerequisites: Enrollment in the Dental Hygiene program
Corequisites: DEN 121

This course introduces preoperative and clinical dental hygiene concepts. Emphasis is placed on the assessment phase of patient care as well as the theory of basic dental hygiene instrumentation. Upon completion, students should be able to collect and evaluate patient data at a basic level and demonstrate knowledge of dental hygiene instrumentation.

***DEN 121 Dental Hygiene Preclinic Lab** **0 6 0 2**

Prerequisites: Enrollment in the Dental Hygiene program
Corequisites: DEN 120 and DEN 111

This course provides the opportunity to perform clinical dental hygiene procedures discussed in DEN 120. Emphasis is placed on clinical skills in patient assessment and instrumentation techniques. Upon completion, students should be able to demonstrate the ability to perform specific preclinical procedures. Also, students should be able to demonstrate aseptic technique used in a dental environment.

DEN 123 Nutrition/Dental Health **2 0 0 2**

Prerequisites: DEN 120 and DEN 130
Corequisites: None

This course introduces basic principles of nutrition with emphasis on nutritional requirements and their application to individual patient needs. Topics include the study of the food pyramid, nutrient functions, Recommended Daily Allowances, and related psychological principles. Upon completion, students should be able to recommend and counsel individuals on their food intake as related to their dental health.

DEN 124 Periodontology **2 0 0 2**

Prerequisites: DEN 110
Corequisites: None

This course provides an in-depth study of the periodontium, periodontal pathology, periodontal monitoring, and the principles of periodontal therapy. Topics include periodontal anatomy and a study of the etiology, classification, and treatment modalities of periodontal diseases. Upon completion, students should be able to describe, compare, and contrast techniques involved in periodontal/maintenance therapy, as well as patient care management.

***DEN 130 Dental Hygiene Theory I** **2 0 0 2**

Prerequisites: DEN 120
Corequisites: DEN 131

This course is a continuation of the didactic dental hygiene concepts necessary for providing an oral prophylaxis. Topics include deposits/removal, instrument sharpening, patient education, fluorides, planning for dental hygiene treatment, charting, and clinical records and procedures. Upon completion, students should be able to demonstrate knowledge needed to complete a thorough oral prophylaxis.

***DEN 131 Dental Hygiene Clinic I** 0 0 9 3

Prerequisites: DEN 121

Corequisites: DEN 130

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of the recall patients with gingivitis or light deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

***DEN 140 Dental Hygiene Theory II** 1 0 0 1

Prerequisites: DEN 130

Corequisites: DEN 141

This course provides a continuation of the development, theory, and practice of patient care. Topics include modification of treatment for special needs patients, advanced radiographic interpretation, and ergonomics. Upon completion, students should be able to differentiate necessary treatment modifications, effective ergonomic principles, and radiographic abnormalities.

***DEN 141 Dental Hygiene Clinic II** 0 0 6 2

Prerequisites: DEN 131

Corequisites: DEN 140

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with early periodontal disease and subgingival deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

***DEN 191 Selected Topics in Dental Hygiene** 0 2 0 1

Prerequisites: Enrollment in the Dental Hygiene program

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. The topics and skills for this course will center around effective response to dental office emergencies.

***DEN 220 Dental Hygiene Theory III** 2 0 0 2

Prerequisites: DEN 140

Corequisites: DEN 221

This course provides a continuation in developing the theories and practices of patient care. Topics include periodontal debridement, pain control, subgingival irrigation, air polishing, and case presentations. Upon completion, students should be able to demonstrate knowledge of methods of treatment and management of periodontally compromised patients.

***DEN 221 Dental Hygiene Clinic III** 0 0 12 4

Prerequisites: DEN 141

Corequisites: DEN 220

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with moderate to advanced periodontal involvement and moderate deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

DEN 222 General and Oral Pathology 2 0 0 2
Prerequisites: BIO 163 or BIO 165 or BIO 168
Corequisites: BIO 175
This course provides a general knowledge of oral pathological manifestations associated with selected systemic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, specific and nonspecific immune and inflammatory responses with emphasis on recognizing abnormalities. Upon completion, students should be able to differentiate between normal and abnormal tissues and refer unusual findings to the dentist for diagnosis.

DEN 223 Dental Pharmacology 2 0 0 2
Prerequisites: Enrollment in the Dental Hygiene program
Corequisites: BIO 163 or BIO 165 or BIO 168
This course provides basic drug terminology, general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Emphasis is placed on knowledge of drugs in overall understanding of patient histories and health status. Upon completion, students should be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures.

***DEN 224 Materials and Procedures** 1 3 0 2
Prerequisites: DEN 111
Corequisites: None
This course introduces the physical properties of materials and related procedures used in dentistry. Topics include restorative and preventative materials, fabrication of casts and appliances, and chair-side functions of the dental hygienist. Upon completion, students should be able to demonstrate proficiency in the laboratory and/or clinical application of routinely used dental materials and chairside functions.

***DEN 230 Dental Hygiene Theory IV** 1 0 0 1
Prerequisites: DEN 220
Corequisites: DEN 231
This course provides an opportunity to increase knowledge of the profession. Emphasis is placed on dental specialties and completion of a case presentation. Upon completion, students should be able to demonstrate knowledge of various disciplines of dentistry and principles of case presentations.

***DEN 231 Dental Hygiene Clinic IV** 0 0 12 4
Prerequisites: DEN 221
Corequisites: DEN 230
This course continues skill development in providing an oral prophylaxis. Emphasis is placed on periodontal maintenance and on treating patients with moderate to advanced/refractory periodontal disease. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

***DEN 232 Community Dental Health** 2 0 3 3
Prerequisites: Enrollment in the Dental Hygiene program and ENG 115 and SOC 240
Corequisites: None
This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include epidemiology, research methodology, biostatistics, preventative dental care, dental health education, program planning, and financing and utilization of dental services. Upon completion, students should be able to assess, plan, implement, and evaluate a community dental health program.

***DEN 233 Professional Development** 2 0 0 2
Prerequisites: Enrollment in the Dental Hygiene program
Corequisites: None
This course includes professional development, ethics, and jurisprudence with applications to practice management. Topics include conflict management, state laws, resumes, interviews, and legal liabilities as health care professionals. Upon completion, students should be able to demonstrate the ability to practice dental hygiene within established ethical standards and state laws.

DEN 292 Selected Topics in Dental Hygiene 2 0 2
Prerequisites: Enrollment in the program
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. Topics will include theory and methods of tobacco cessation as well as other timely information related to dental hygiene practice.

Drafting

DFT 111 Technical Drafting I 2 6 4
Prerequisites: None
Corequisites: None
This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorial drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.

DFT 112 Technical Drafting II 2 6 4
Prerequisites: DFT 111
Corequisites: None
This course provides for advanced drafting practices and procedures. Topics include detailed working drawings, hardware, fits and tolerances, assembly and sub-assembly, geometric dimensioning and tolerancing, intersections, and developments. Upon completion, students should be able to produce detailed working drawings.

DFT 115 Architectural Drafting 1 2 2
Prerequisites: None
Corequisites: None
This course introduces basic drafting practices used in residential and light commercial design. Topics include floor plans, foundations, details, electrical components, elevations, and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure.

DFT 119 Basic CAD 1 2 2
Prerequisites: None
Corequisites: None
This course introduces computer-aided drafting software for specific technologies to non-drafting majors. Emphasis is placed on understanding the software command structure and drafting standards for specific technical fields. Upon completion, students should be able to create and plot basic drawings.

DFT 121 Introduction to Geometric Dimensioning and Tolerancing 1 2 2
Prerequisites: None
Corequisites: None
This course introduces basic geometric dimensioning and tolerancing principles. Topics include symbols, annotation, theory, and applications. Upon completion, students should be able to interpret and apply basic geometric dimensioning and tolerancing principles to drawings.

DFT 151 CAD I 2 3 3
Prerequisites: None
Corequisites: None
This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

DFT 152 CAD II 2 3 3
Prerequisites: DFT 151
Corequisites: None
This course is a continuation of DFT 151. Topics include advanced two-dimensional, three-dimensional, and solid modeling and extended CAD applications. Upon completion, students should be able to generate and manage CAD drawings and models to produce engineering documents.

DFT 153 CAD III 2 3 3
Prerequisites: DFT 151
Corequisites: None
This course covers basic principles of three-dimensional CAD wireframe and surface models. Topics include user coordinate systems, three-dimensional viewpoints, three-dimensional wireframes, and surface components and viewpoints. Upon completion, students should be able to create and manipulate three-dimensional wireframe and surface models.

DFT 251 Customizing CAD Software 2 2 3
Prerequisites: DFT 151
Corequisites: None
This course covers customizing CAD software. Topics include the creation of symbol libraries and screen menus, macro writing, and automation of common drafting functions on CAD. Upon completion, students should be able to create a symbol library and screen menu and automate common drawing functions. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

DFT 252 Solid Models and Renderings 2 2 3
Prerequisites: DFT 153
Corequisites: None
This course provides an in-depth study of three-dimensional solid modeling and design software. Topics include parametric design; creation, editing, and rendering of solid models; and generation of views. Upon completion, students should be able to use parametric design techniques to create and edit a three-dimensional solid model, render it, and generate two-dimensional views. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

***DFT 253 CAD Data Management** 2 2 3
Prerequisites: DFT 151
Corequisites: None
This course covers engineering document management techniques. Topics include efficient control of engineering documents, manipulation of CAD drawing data, generation of bill of materials, and linking to spreadsheets or databases. Upon completion, students should be able to utilize systems for managing CAD drawings, extract data from drawings, and link data to spreadsheets or database applications. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

***DFT 259 CAD Project** 1 4 3
Prerequisites: DFT 112, DFT 251, DFT 252, and DFT 253
Corequisites: None
This course is a capstone course experience for the CAD Systems Management concentration. Emphasis is placed on the use of design principles and computer technology in planning, managing, and completing a design project. Upon completion, students should be able to plan and produce engineering documents of a design project, including solid models, working drawings, bom's, annotations, and spreadsheets. This course is a unique concentration requirement in the CAD Systems Management concentration in the Mechanical Drafting Technology program.

Diesel Mechanics

***DIE 110 Diesel Engines** 3 9 6
Prerequisites: None
Corequisites: None
This course introduces theory, design, terminology, and operating adjustments for diesel engines. Emphasis is placed on safety, theory of operation, inspection, measuring, and rebuilding diesel engines according to factory specifications. Upon completion, students should be able to measure, diagnose problems, and repair diesel engines.

***DIE 112 Diesel Electrical Systems** 3 6 5
Prerequisites: None
Corequisites: None
This course introduces electrical theory and applications as they relate to diesel powered equipment. Topics include lighting, accessories, safety, starting, charging, instrumentation, and gauges. Upon completion, students should be able to follow schematics to identify, repair, and test electrical circuits and components

***DIE 115 Electronic Engines** 2 3 3
Prerequisites: None
Corequisites: None
This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers' specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.

***DIE 116 Air Conditioning/Diesel Equipment** **1 2 2**
Prerequisites: None
Corequisites: None
This course provides a study of the design, theory, and operation of heating and air conditioning systems in newer models of medium and heavy duty vehicles. Topics include component function, refrigerant recovery, and environmental regulations. Upon completion, students should be able to use proper techniques and equipment to diagnose and repair heating/air conditioning systems according to industry standards.

***DIE 118 Mechanical Orientation** **2 0 2**
Prerequisites: None
Corequisites: None
This course introduces the care and safe use of power and hand tools. Topics include micrometers, dial indicators, torque wrenches, drills, taps, dies, screw extractors, thread restorers, and fasteners. Upon completion, students should be able to select and properly use tools for various operations.

***DIE 119 Mechanical Transmissions** **2 2 3**
Prerequisites: None
Corequisites: None
This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, sliding idler clutches, and friction clutches. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.

***DIE 125 Preventive Maintenance** **1 3 2**
Prerequisites: None
Corequisites: None
This course introduces preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Topics include preventive maintenance schedules, services, DOT rules and regulations, and roadability. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.

***DIE 231 Medium/Heavy Duty Brake Systems** **1 3 2**
Prerequisites: None
Corequisites: None
This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair braking systems on medium and heavy duty vehicles.

***DIE 233 Suspension and Steering** **2 4 4**
Prerequisites: None
Corequisites: None
This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.

Drama

DRA 111 Theatre Appreciation **3 0 3**
Prerequisites: ENG 111 or departmental approval
Corequisites: None
This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists. Attendance at one play performance and in-depth reading of two plays are required. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Economics

ECO 151 Survey of Economics **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 251 Principles of Microeconomics **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 252 Principles of Macroeconomics **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

Education

***EDU 111 Early Childhood Cred I** **2 0 2**
Prerequisites: None
Corequisites: None
This course introduces early childhood education and the role of the teacher in environments that encourage exploration and learning. Topics include professionalism, child growth and development, individuality, family, and culture. Upon completion, students should be able to identify and demonstrate knowledge of professional roles, major areas of child growth and development, and diverse families.

***EDU 112 Early Childhood Cred II** **2 0 2**
Prerequisites: None
Corequisites: None
This course introduces developmentally appropriate practices, positive guidance, and standards of health, safety, and nutrition. Topics include the learning environment, planning developmentally appropriate activities, positive guidance techniques and health, safety, and nutrition standards. Upon completion, students should be able to demonstrate developmentally appropriate activities and positive guidance techniques; and describe health/sanitation/nutrition practices that promote healthy environments for children.

***EDU 131 Child, Family, and Community** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the relationships between the families, programs for children/schools, and the community. Emphasis is placed on establishing and maintaining positive collaborative relationships with families and community resources. Upon completion, students should be able to demonstrate strategies for effectively working with diverse families and identifying and utilizing community resources.

***EDU 144 Child Development I** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the theories of child development and the developmental sequences of children from conception through the pre-school years for early childhood educators. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and appropriate experiences for the young child. Upon completion, students should be able to identify developmental milestones, plan experiences to enhance development, and describe appropriate interaction techniques and environments for typical/atypical development.

***EDU 145 Child Development II** **3 0 3**
Prerequisites: EDU 144
Corequisites: None
This course covers theories of child development and developmental sequences of children from pre-school through middle childhood for early childhood educators. Emphasis is placed on characteristics of physical/motor, social, emotional, and cognitive/language development and appropriate experiences for children. Upon completion, students should be able to identify developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments.

***EDU 146 Child Guidance** 3 0 3
Prerequisites: None
Corequisites: None
This course introduces practical principles and techniques for developmentally appropriate guidance. Emphasis is placed on encouraging self-esteem and cultural awareness, effective communication skills, and direct and indirect guidance techniques and strategies. Upon completion, students should be able to demonstrate strategies which encourage positive social interactions, promote conflict resolution, and develop self-control, self-motivation, and self-esteem in children.

***EDU 151 Creative Activities** 3 0 3
Prerequisites: None
Corequisites: None
This course covers creative learning environments, planning and implementing developmentally appropriate experiences, and developing appropriate teaching materials for the classroom. Emphasis is placed on creative activities for children in art, music, movement and physical skills, and dramatics. Upon completion, students should be able to select and evaluate developmentally appropriate learning materials and activities.

***EDU 151A Creative Activities Lab** 0 2 1
Prerequisites: None
Corequisites: EDU 151
This course provides a laboratory component to complement EDU 151. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate creative activities.

***EDU 153 Health, Safety, and Nutrition** 3 0 3
Prerequisites: None
Corequisites: None
This course focuses on promoting and maintaining the health and well-being of children. Topics include health and nutritional needs, safe and healthy environments, and recognition and reporting of child abuse and neglect. Upon completion, students should be able to set up and monitor safe indoor and outdoor environments and implement a nutrition education program.

***EDU 153A Health, Safety, and Nutrition Lab** 0 2 1
Prerequisites: None
Corequisites: EDU 153
This course provides a laboratory component to complement EDU 153. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of safe indoor/outdoor environments and nutrition education programs.

***EDU 221 Children with Special Needs** 3 0 3
Prerequisites: EDU 144 and EDU 145 or PSY 224 and PSY 245
Corequisites: None
This course introduces working with children with special needs. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the home and classroom environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, and work collaboratively to plan, implement, and evaluate inclusion strategies.

***EDU 251 Exploration Activities** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.

***EDU 251A Exploration Activities Lab** **0 2 1**
Prerequisites: None
Corequisites: EDU 251
This course provides a laboratory component to complement EDU 251. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate science, math, and social studies activities for children.

***EDU 259 Curriculum Planning** **3 0 3**
Prerequisites: EDU 112 or EDU 119
Corequisites: None
This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instruction; and design environments with appropriate equipment and supplies.

***EDU 261 Early Childhood Administration I** **2 0 2**
Prerequisites: None
Corequisites: None
This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a NC Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision.

***EDU 280 Literacy Experiences** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers literacy, early literacy development, and appropriate early experiences with books and writing. Emphasis is placed on reading and writing readiness, major approaches used in teaching literacy, and strategies for sharing quality in children's literature. Upon completion, students should be able to select, plan, and evaluate appropriate early literacy experiences.

Engineering

EGR 115 Introduction to Technology 2 6 4
Prerequisites: None
Corequisites: None
This course introduces the basic skills and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, calculator applications, professional ethics, safety practices, and other related topics. Upon completion, students should be able to demonstrate an understanding of the basic technologies, prepare drawings and sketches, and perform computations using a scientific calculator.

Electrical

ELC 111 Introduction to Electricity 2 2 3
Prerequisites: None
Corequisites: None
This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronic majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

ELC 112 DC/AC Electricity 3 6 5
Prerequisites: None
Corequisites: None
This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simpe DC/AC circuits.

ELC 113 Basic Wiring I 2 6 4
Prerequisites: None
Corequisites: None
This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

ELC 114 Basic Wiring II 2 6 4
Prerequisites: ELC 113
Corequisites: None
This course provides additional instruction in the application of electrical tools, materials, and test equipment associated with electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with electrical installations.

ELC 117 Motors and Controls **2 6 4**

Prerequisites: ELC 112 or ELC 131
Corequisites: None

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

ELC 119 NEC Calculations **1 2 2**

Prerequisites: None
Corequisites: None

This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

ELC 125 Diagrams and Schematics **1 2 2**

Prerequisites: None
Corequisites: None

This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics.

ELC 128 Introduction to PLC **2 3 3**

Prerequisites: None
Corequisites: None

This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.

ELC 131 DC/AC Circuit Analysis **4 3 5**

Prerequisites: None
Corequisites: MAT 121

This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation software, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

ELC 132 Electrical Drawings **1 3 2**

Prerequisites: None
Corequisites: None

This course introduces the technical documentation that is typically found or used in the industrial environment. Topics include interpretation of service manuals, freehand sketching of lines, orthographic views and dimensions, and blueprint reading. Upon completion, students should be able to interpret technical documents and blueprints and use basic drafting skills to prepare usable field drawings

ELC 140 Fundamentals of DC/AC Circuit **5 6 7**
Prerequisites: None
Corequisites: None
This course covers the principles of DC/AC circuit analysis as applied to electronics. Topics include atomic theory, circuit analysis, components, test equipment, troubleshooting techniques, schematics, diagrams, and other related topics. Upon completion, students should be able to interpret, construct, verify, analyze, and troubleshoot DC/AC circuits in a safe manner.

ELC 215 Electrical Maintenance **2 3 3**
Prerequisites: ELC 117
Corequisites: None
This course introduces the theory of maintenance and the skills necessary to maintain electrical equipment found in industrial and commercial facilities. Topics include maintenance theory, predictive and preventive maintenance, electrical equipment operation and maintenance, and maintenance documentation. Upon completion, students should be able to perform maintenance on electrical equipment in industrial and commercial facilities.

ELC 228 PLC Applications **2 6 4**
Prerequisites: ELC 128
Corequisites: None
This course continues the study of the programming and applications of programmable logic controllers. Emphasis is placed on advanced programming, networking, advanced I/O modules, reading and interpreting error codes, and troubleshooting. Upon completion, students should be able to program and troubleshoot programmable logic controllers.

***ELC 229 Applications Project** **1 3 2**
Prerequisites: ELC 112 or ELC 113
Corequisites: None
This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project

Electronics

ELN 131 Electronic Devices **3 3 4**
Prerequisites: ELC 112, ELC 131, or ELC 140
Corequisites: None
This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thyristors, and related components . Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

ELN 132 Linear IC Applications **3 3 4**
Prerequisites: ELN 131
Corequisites: None
This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

ELN 133 Digital Electronics 3 3 4

Prerequisites: ELC 112, ELC 131, or ELC 140

Corequisites: None

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC converters, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 140 Semiconductor Devices 4 6 6

Prerequisites: None

Corequisites: None

This course covers semiconductor devices and circuits as they apply to the area of electronic servicing. Topics include semiconductor theory, diodes, transistors, linear integrated circuits, biasing, amplifiers, power supplies, and other related topics. Upon completion, students should be able to construct, verify, analyze, and troubleshoot semiconductor circuits.

ELN 141 Digital Fundamentals 4 6 6

Prerequisites: None

Corequisites: None

This course covers combinational and sequential logic circuits. Topics include number systems, logic elements, Boolean algebra, Demorgan's theorem, logic families, flip flops, registers, counters, and other related topics. Upon completion, students should be able to analyze, verify, and troubleshoot digital circuits.

ELN 143 Television Servicing 4 6 6

Prerequisites: ELN 140

Corequisites: None

This course provides a detailed study of the operation and repair of television receiver systems. Topics include operation, alignment, and repair of television receiver systems. Upon completion, students should be able to troubleshoot, maintain, and repair television receiver systems.

ELN 144 Video Recording Systems 3 3 4

Prerequisites: ELN 140

Corequisites: None

This course provides a detailed study of the operation and repair of video recording systems. Topics include operation, alignment, and repair of video recording systems. Upon completion, students should be able to troubleshoot, maintain, and repair video recording systems.

ELN 152 Fabrication Techniques 1 3 2

Prerequisites: None

Corequisites: None

This course covers the fabrication methods required to create a prototype product from the initial circuit design. Topics include CAD, layout, sheet metal working, component selection, wire wrapping, PC board layout and construction, reverse engineering, soldering, and other related topics. Upon completion, students should be able to design and construct an electronic product with all its associated documentation.

ELN 232 Introduction to Microprocessors 3 3 4
Prerequisites: ELN 133
Corequisites: None
This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

ELN 234 Communication Systems 3 3 4
Prerequisites: ELN 132 or ELN 140
Corequisites: None
This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

ELN 242 Audio Servicing 2 3 3
Prerequisites: ELC 140
Corequisites: ELN 140
This course covers the installation, maintenance, troubleshooting, and repair of consumer audio equipment. Topics include the theory, operation, and maintenance of audio equipment. Upon completion, students should be able to maintain, troubleshoot, and repair consumer audio equipment.

ELN 244 Computer Repair 3 6 5
Prerequisites: ELN 133 or ELN 141
Corequisites: None
This course covers the assembly, upgrading, and repair of microcomputers. Topics include logic test equipment, computer motherboards, storage devices, I/O devices, power supplies, and other peripherals. Upon completion, students should be able to assemble, upgrade, maintain, troubleshoot, and repair microcomputers.

ELN 260 Programmable Logic Controllers 3 3 4
Prerequisites: None
Corequisites: None
This course provides a detailed study of PLC applications, with a focus on design of industrial control circuits using the PLC. Topics include PLC components, memory organization, math instructions, programming documentation, input/output devices, and applying PLCs in the design of industrial control systems. Upon completion, students should be able to design and program a PLC system to perform a wide variety of industrial control functions.

ELN 275 Troubleshooting 1 2 2
Prerequisites: None
Corequisites: ELN 133 or ELN 141
This course covers techniques of analyzing and repairing failures in electronic equipment. Topics include safety, signal tracing, use of service manuals, and specific troubleshooting methods for analog, digital, and other electronics-based circuits and systems. Upon completion, students should be able to logically diagnose and isolate faults and perform necessary repairs to meet manufacturers' specifications.

Emergency Medical Science

EMS 110 EMT-Basic **5 3 0 6**
Prerequisites: Enrollment in EMS program or Departmental Approval
Corequisites: EMS 111
This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the skills necessary to achieve North Carolina State or National Registry EMT-Basic certification.

EMS 111 Prehospital Environment **2 2 0 3**
Prerequisites: Enrollment in EMS program or Departmental Approval
Corequisites: EMS 110
This course introduces the prehospital care environment and is required for all levels of EMT certification. Topics include roles, responsibilities, laws, ethics, communicable diseases, hazardous materials recognition, therapeutic communications, EMS systems, and defense tactics. Upon completion, students should be able to demonstrate competence in rules and regulations governing prehospital care and personal protection.

EMS 120 Intermediate Interventions **2 3 0 3**
Prerequisites: EMS 110, EMS 111, and BIO 168, or Departmental Approval
Corequisites: EMS 121 or EMS 122 and COE 111, EMS 130, EMS 131, and BIO 169
This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate, and is required for intermediate certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acid-base balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AED's, and correctly interpret arterial blood gases. Current N.C. EMT certification is required for students enrolling in this course.

EMS 121 EMS Clinical Practicum I **0 0 6 2**
Prerequisites: EMS 110, EMS 111, and BIO 168, or Departmental Approval
Corequisites: EMS 120, EMS 130, EMS 131, and BIO 169
This course is the initial hospital and field internship and is required for intermediate and paramedic certification. Emphasis is placed on intermediate-level care. Upon completion, students should be able to demonstrate competence with intermediate-level skills. Current N.C. EMT certification is required for students enrolling in this course.

EMS 130 Pharmacology for EMS **1 2 0 2**
Prerequisites: EMS 110, EMS 111, and BIO 168, or Departmental Approval
Corequisites: EMS 120, EMS 131, and BIO 169
This course introduces the fundamental principles of pharmacology and medication administration and is required for intermediate and paramedic certification. Topics include terminology, pharmacokinetics, pharmacodynamics, weights, measures, drug calculations, legislation, and administration routes. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

EMS 131 Advanced Airway Managment 1 2 0 2
Prerequisites: EMS 110, EMS 111, and BIO 168 or Departmental Approval
Corequisites: EMS 120 and EMS 130
This course is designed to provide advanced airway management techniques and is required for intermediate and paramedic certification. Topics include respiratory anatomy and physiology, airway, ventilation, adjuncts, surgical intervention, and rapid sequence intubation. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance.

EMS 140 Rescue Scene Management 1 6 0 3
Prerequisites: Enrollment in EMS program or Departmental Approval
Corequisites: None
This course introduces rescue scene management and is required for paramedic certification. Topics include response to hazardous material conditions, medical incident command, and extrication of patients from a variety of situations. Upon completion, students should be able to recognize and manage rescue operations based upon initial and follow-up scene assessment. Skills will include vehicle extrication, water rescue, rescue from heights, confined space rescue, and rescue from burning structures.

EMS 150 Vehicle Operations and EMS Communication 1 3 0 2
Prerequisites: Enrollment in EMS program or Departmental Approval
Corequisites: None
This course examines the principles governing maintenance of emergency vehicles and EMS communication equipment and is required for paramedic certification. Topics include applicable motor vehicle laws affecting emergency vehicle operation, defensive driving, collision avoidance techniques, communication systems, and information management systems. Upon completion, students should have a basic knowledge of emergency vehicles, maintenance, and communication needs.

EMS 210 Advanced Patient Assessment 2 2 0 3
Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or COE 111 and EMS 122
Corequisites: None
This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communication skills and record and report collected patient data.

EMS 220 Cardiology 3 3 0 4
Prerequisites: EMS 120, EMS 130, EMS 131, and EMS 121
Corequisites: EMS 221
This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, rhythm interpretation, cardiac pharmacology, and patient treatment. Upon completion, students should be able to certify at the Advanced Cardiac Life Support provider level utilizing American Heart Association Guidelines. In addition, the course provides instruction in the use of various cardiac monitoring devices.

EMS 221 EMS Clinical Practicum II **0 0 9 3**
Prerequisites: EMS 121 or EMS 122 and COE 111, EMS 120, EMS 130, and EMS 131
Corequisites: EMS 220, EMS 210
This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.

EMS 231 EMS Clinical Pract III **0 0 9 3**
Prerequisites: EMS 221 or EMS 222 and COE 121, EMS 220, and EMS 210
Corequisites: EMS 250, EMS 260
This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.

EMS 235 EMS Management **2 0 0 2**
Prerequisites: Enrollment in EMS program or Departmental Approval
Corequisites: None
This course stresses the principles of managing a modern emergency medical service system. Topics include structure and function of municipal governments, EMS grantsmanship, finance, regulatory agencies, system management, legal issues, and other topics relevant to the EMS manager. Upon completion, students should be able to understand the principles of managing emergency medical service delivery systems.

EMS 240 Behavioral Emergencies **2 0 0 2**
Prerequisites: EMS 120 and either EMS 121 or EMS 122 and COE 111, EMS 130, and EMS 131 or Departmental Approval
Corequisites: EMS 241
This course includes concepts of crisis intervention and techniques of dealing with different behavioral emergencies and is required for paramedic certification. Topics include psychiatric emergencies, abuse, assault, challenged patients, personal well-being, home care, and psychotherapeutic pharmacology. Upon completion, students should be able to recognize and manage frequently encountered behavioral emergencies.

EMS 241 EMS Clinical Practicum IV **0 0 9 3**
Prerequisites: EMS 231, EMS 250, and EMS 260
Corequisites: EMS 240, EMS 270, and EMS 285
This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic. Current N.C. EMT certification is required for students enrolling in this course.

EMS 250 Advanced Medical Emergencies **2 2 0 3**
Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or COE 111, EMS 122, EMS 210, EMS 220, and EMS 221
Corequisites: EMS 231
This course presents an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include pulmonology, neurology, endocrinology, anaphylaxis, gastroenterology, toxicology, and environmental emergencies integrating case presentation and emphasizing pharmacotherapeutics. Upon completion, students should be able to recognize and manage frequently encountered medical conditions based upon initial patient impression.

EMS 260 Advanced Trauma Emergencies 1 3 0 2
Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or COE 111 and EMS 122, EMS 210, EMS 220, and EMS 221
Corequisites: EMS 231
This course presents in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include hemorrhage control, shock, burns, and trauma to head, spine, soft tissue, thoracic, abdominal, and musculoskeletal areas with case presentations utilized for special problems situations. Upon completion, students should be able to recognize and manage trauma situations based upon patient impressions and should meet requirements of BTLS or PHTLS courses.

EMS 270 Life Span Emergencies 2 2 0 3
Prerequisites: EMS 120, EMS 130 and EMS 131, EMS 250, EMS 260, and EMS 231
Corequisites: EMS 241
This course, required for paramedic certification, covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies and certify at the Pediatric Advanced Life Support provider level.

EMS 285 EMS Capstone 1 3 0 2
Prerequisites: EMS 220, EMS 250, EMS 260, and EMS 231
Corequisites: EMS 241
This course proves an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS related events.

English

ENG 080 Writing Foundations 3 2 4
Prerequisites: ENG 070 or ENG 075 or Placement
Corequisites: None
This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written English, reflecting standard usage and mechanics in structuring a variety of sentences. Upon completion, students should be able to write correct sentences and a unified, coherent paragraph. *This course does not satisfy the developmental writing prerequisite for ENG 111 or ENG 111A.*

ENG 090 Composition Strategies 3 0 3
Prerequisites: ENG 080 or ENG 085
Corequisites: ENG 090A
This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. *This course with ENG 090A satisfies the developmental writing prerequisite for ENG 111 and ENG 111A.*

ENG 090A Composition Strategies Lab **0 2 1**
Prerequisites: ENG 080 or ENG 085
Corequisites: ENG 090

This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.

ENG 102 Applied Communications II **3 0 3**
Prerequisites: None
Corequisites: None

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications. *This is a diploma-level course.*

ENG 111 Expository Writing **3 0 3**
Prerequisites: ENG 090 and/or RED 090, or placement test
Corequisites: None

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.*

ENG 111A Expository Writing Lab **0 2 1**
Prerequisites: ENG 090 and/or RED 090, or placement test
Corequisites: ENG 111

This writing laboratory is designed to apply the skills introduced in ENG 111. Emphasis is placed on the editing and revision components of the writing process. Upon completion, students should be able to apply those skills in the production of final drafts in ENG 111.

ENG 113 Literature-Based Research **3 0 3**
Prerequisites: ENG 111
Corequisites: None

This course, the second in a series of two, expands the concepts developed in ENG 111 by focusing on writing that involves literature-based research and documentation. Emphasis is placed on critical reading and thinking and the analysis and interpretation of prose, poetry, and drama: plot, characterization, theme, cultural context, etc. Upon completion, students should be able to construct mechanically-sound, documented essays and research papers that analyze and respond to literary works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.*

ENG 114 Professional Research and Reporting **3 0 3**
Prerequisites: ENG 111
Corequisites: None
This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.*

ENG 125 Creative Writing I **3 0 3**
Prerequisites: ENG 111
Corequisites: ENG 112, ENG 113, or ENG 114
This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others.

ENG 126 Creative Writing II **3 0 3**
Prerequisites: ENG 125
Corequisites: None
This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication.

ENG 231 American Literature I **3 0 3**
Prerequisites: ENG 112, ENG 113, or ENG 114
Corequisites: None
This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ENG 232 American Literature II **3 0 3**
Prerequisites: ENG 112, ENG 113, or ENG 114
Corequisites: None
This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ENG 241 British Literature I **3 0 3**
Prerequisites: ENG 112, ENG 113, or ENG 114
Corequisites: None
This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading and writing about *King Lear* and an eighteenth century novel are required. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ENG 242 British Literature II **3 0 3**
Prerequisites: ENG 112, ENG 113, or ENG 114
Corequisites: None
This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading and writing about a nineteenth century novel are required. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

French

FRE 111 Elementary French I **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 112 Elementary French II **3 0 3**
Prerequisites: FRE 111
Corequisites: None
This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 211 Intermediate French I 3 0 3
Prerequisites: FRE 112
Corequisites: None
This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 212 Intermediate French II 3 0 3
Prerequisites: FRE 211
Corequisites: None
This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Geography

GEO 111 World Regional Geography 3 0 3
Prerequisites: None
Corequisites: None
This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

GEO 112 Cultural Geography 3 0 3
Prerequisites: None
Corequisites: None
This course is designed to explore the diversity of human cultures and to describe their shared characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

GEO 121 North Carolina Geography 3 0 3
Prerequisites: None
Corequisites: None
This course is a survey of the physical and cultural landscapes of North Carolina. Topics include physical characteristics of North Carolina, settlement patterns, resource use, and cultural variations. Upon completion, students should be able to demonstrate knowledge of the distinct physical and cultural features of North Carolina. *This course is intended as a social and behavioral sciences course.*

GEO 130 General Physical Geography **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces both the basic physical components that help shape the earth and the study of minerals, rocks, and evolution of landforms. Emphasis is placed on the geographic grid, cartography, weather, climate, mineral composition, fluvial processes, and erosion and deposition. Upon completion, students should be able to identify these components and processes and explain how they interact. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

Health

HEA 110 Personal Health/Wellness **3 0 3**
Prerequisites: None
Corequisites: None
This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness.

HEA 111 First Aid and Safety **1 2 2**
Prerequisites: None
Corequisites: None
This course provides first aid and safety education. Emphasis is placed on safe attitudes, accident prevention, and response to accidents and injuries. Upon completion, students should be able to demonstrate proper first aid and safety skills.

HEA 112 First Aid and CPR **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained.

History

HIS 111 World Civilizations I **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 112 World Civilizations II **3 0 3**
Prerequisites: None
Corequisites: None

This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*.

HIS 116 Current World Problems **3 0 3**
Prerequisites: None
Corequisites: None

This course covers current world events from an historical perspective. Topics include regional problems as well as international concerns. Upon completion, students should be able to analyze significant current world problems from an historical perspective.

HIS 117 History of Religions **3 0 3**
Prerequisites: None
Corequisites: None

This course surveys the historical development of the world's major religions. Topics include systems of belief and religious practice, polytheism, monotheism, and current religious movements. Upon completion, students should be able to analyze the world's major religious traditions.

HIS 124 Western Cultural History **3 0 3**
Prerequisites: None
Corequisites: None

This course provides a cultural history of the Western world. Emphasis is placed on the interrelationships of philosophy, art, music, and literature in Western history. Upon completion, students should be able to analyze significant cultural developments in Western civilization.

HIS 131 American History I **3 0 3**
Prerequisites: None
Corequisites: None

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 132 American History II **3 0 3**
Prerequisites: None
Corequisites: None

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

HIS 141 Genealogy and Local History 3 0 3
Prerequisites: None
Corequisites: None
This course explores the role of the local or family historian. Emphasis is placed on historical or genealogical research techniques including a survey of local, state, and national archival resources. Upon completion, students should be able to conduct genealogical research and do a major research project on local or family history.

HIS 162 Women and History 3 0 3
Prerequisites: None
Corequisites: None
This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history.

HIS 167 The Vietnam War 3 0 3
Prerequisites: None
Corequisites: None
This course covers the American political and military involvement in Vietnam from 1944 to 1975. Topics include French colonial policy, Vietnamese nationalism, the war with France, American involvement, and resolution of the conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments that influenced the Vietnam War.

HIS 211 Ancient History 3 0 3
Prerequisites: ENG 111 and HIS 111
Corequisites: None
This course traces the development of the cultural, intellectual, and political foundations of western civilization. Topics include the civilizations of the Near East, the classical Greek and Hellenistic eras, the Roman world, Judaism, and Christianity. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the ancient world.

HIS 212 Medieval History 3 0 3
Prerequisites: ENG 111 and HIS 111
Corequisites: None
This course traces the cultural, political, economic, social, religious, and intellectual history of Europe during the Middle Ages. Topics include the decline of the Roman Empire, the Frankish Kingdoms, the medieval church, feudalism, the rise of national monarchies, urbanization, and the rise of universities. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in medieval Europe.

HIS 215 Nineteeth-Century Europe 3 0 3
Prerequisites: ENG 111 and HIS 112
Corequisites: None
This course provides an in-depth survey of European history from 1815 to 1914. Topics include the development of nationalism, liberalism, socialism, imperialism, and the origins of World War I. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in nineteenth-century Europe.

HIS 227 Native American History 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments among Native Americans.

HIS 233 History of Appalachia 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course introduces the Appalachian region and its relationship to mainstream American history. Topics include regional settlement patterns and a study of Appalachian culture. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in Appalachia.

HIS 234 Cherokee History 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course is a survey of the history and culture of the Cherokees. Topics include origins, belief systems, contact and conflict with European settlers, removals, and contemporary problems faced by the Cherokees. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in Cherokee history.

HIS 236 North Carolina History 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina.

HIS 271 The French Revolution Era 3 0 3
Prerequisites: ENG 111 and HIS 112
Corequisites: None
This course traces the causes and effects of the French Revolution. Topics include the Enlightenment; Jacobins; Reign of Terror; Napoleon's republic, empire, and wars; and the French Revolution's impact upon world history. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments during the French revolutionary era.

Hotel and Restaurant Management

HRM 110 Introduction to Hospitality 2 0 2
Prerequisites: None
Corequisites: None
This course covers the growth and progress of the hospitality industry. Topics include financing, hotels, restaurants, and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist in the hospitality industry.

***HRM 115 Housekeeping** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the scope, responsibilities, communications, terminology, materials, and concerns specific to hotel housekeeping. Topics include management and supervision of housekeeping staff in the proper cleaning and sanitation of rooms and public areas, budgeting, purchasing, security, and inventory control. Upon completion, students should be able to understand and apply the principles of organization and management of a housekeeping department.

***HRM 120 Front Office Procedures** **3 0 3**
Prerequisites: ACC 175
Corequisites: HRM 120A
This course provides a systematic approach to hotel front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and rate management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic understanding of current front office operating systems, including efficient and courteous guest services.

***HRM 120A Front Office Procedures Lab** **0 2 1**
Prerequisites: ACC 175
Corequisites: HRM 120
This course is laboratory to accompany HRM 120. Emphasis is placed on practical computer applications of theory covered in HRM 120. Upon completion, students should be able to demonstrate a basic proficiency in computer-based, front office applications.

***HRM 135 Facilities Management** **2 0 2**
Prerequisites: None
Corequisites: None
This course introduces the basic elements of planning and designing hospitality facilities, including their maintenance and upkeep. Topics include equipment and plant preventive maintenance, engineering, interior design, space utilization, remodeling and expansion, and traffic and workflow patterns. Upon completion, students should be able to demonstrate an understanding of the planning, design, and maintenance of hospitality physical plants and equipment.

***HRM 140 Hospitality Tourism Law** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system to prevent or minimize organizational liability.

***HRM 145 Hospitality Supervision** **3 0 3**
Prerequisites: None
Corequisites: None
This course covers principles of supervision as they apply to the hospitality industry. Topics include recruitment, selection, orientation, training, evaluation, and leadership skills. Upon completion, students should be able to understand and apply basic supervisory skills unique to the hospitality and service industry.

***HRM 192 Selected Topics in Dining Room Management 1 2 2**
Prerequisites: None
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. This course will focus on benchmarking prevailing purchasing and menu management practices.

***HRM 193 Selected Topics in Procurement and Menu Management 2 2 3**
Prerequisites: None
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. The course will focus on the management of services in the dining room environment.

***HRM 210 Meetings and Conventions 3 0 3**
Prerequisites: HRM 215, HRM 215A, and HRM 240
Corequisites: None
This course introduces organization, arrangement, and operation of conventions, trade shows, professional meetings, and food functions. Emphasis is placed on the methods of marketing, selling, and servicing conventions and trade shows and the division of administrative responsibilities in their operation. Upon completion, students should be able to describe and apply the principles of management to multi-function, multi-day conferences and events.

***HRM 215 Restaurant Management 3 0 3**
Prerequisites: CUL 135, HRM 192
Corequisites: HRM 215A
This course provides an overview of the various challenges and responsibilities encountered in managing a food and beverage operation. Topics include planning, administration, organization, accounting, marketing, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant.

***HRM 215A Restaurant Management Lab 0 2 1**
Prerequisites: CUL 135, HRM 192
Corequisites: HRM 215
This course is a laboratory to accompany HRM 215. Emphasis is placed on practical applications of restaurant management principles. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management applications.

***HRM 220 Food and Beverage Control 3 0 3**
Prerequisites: MAT 115
Corequisites: None
This course introduces controls and accounting procedures used in the hospitality industry. Topics include analysis of financial statements, reports, and costs. Upon completion, students should be able to understand and apply food, beverage, and labor cost control systems.

HRM 225 Beverage Management **2 0 2**
Prerequisites: None
Corequisites: None
This course introduces the management of beverage operations in a hospitality operation. Topics include history, service, procurement, storage, and control of wines, fermented and distilled beverages, sparkling waters, coffees, and teas. Upon completion, students should be able to demonstrate knowledge of the beverages consumed in a hospitality operation.

***HRM 240 Hospitality Marketing** **3 0 3**
Prerequisites: HRM 110
Corequisites: None
This course covers planning, organizing, directing, and analyzing the results of marketing programs in the hospitality industry. Emphasis is placed on market segmentation and analysis, product and image development, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to prepare a marketing plan applicable to the hospitality industry.

***HRM 280 Hospitality Management Problems** **3 0 3**
Prerequisites: HRM 135, HRM 145, HRM 215, and HRM 220
Corequisites: None
This course addresses current global, national, and local concerns and issues in the hospitality industry. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to apply hospitality management principles to real challenges facing industry managers.

Human Services

***HSE 110 Introduction to Human Services** **2 2 0 3**
Prerequisites: None
Corequisites: None
This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker.

***HSE 112 Group Process I** **1 2 0 2**
Prerequisites: Enrollment in the HSE program
Corequisites: None
This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings.

***HSE 123 Interviewing Techniques** **2 2 0 3**
Prerequisites: None
Corequisites: None
This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship.

*HSE 125 Counseling 2 2 0 3

Prerequisites: PSY 150
Corequisites: None

This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem-solving, decision-making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.

*HSE 210 Human Services Issues 2 0 0 2

Prerequisites: Successful completion of 12 SHC in the HSE program
Corequisites: None

This course covers current issues and trends in the field of human services. Emphasis is placed on contemporary topics with relevance to special issues in a multifaceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field.

*HSE 220 Case Management 2 2 0 3

Prerequisites: HSE 110
Corequisites: None

This course covers the variety of tasks associated with professional case management. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services.

*HSE 225 Crisis Intervention 3 0 0 3

Prerequisites: None
Corequisites: None

This course introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately.

Humanities/Fine Arts Courses

The following courses are classified as Humanities/Fine Arts. For more information see the course description.

ART

ART 114 Art History Survey I
ART 115 Art History Survey II
ART 117 Non-Western Art History
ART 131 Drawing I
ART 132 Drawing II
ART 171 Computer Art I
ART 240 Painting I
ART 241 Painting II
ART 244 Watercolor
ART 261 Photography I
ART 262 Photography II
ART 271 Computer Art II
ART 281 Sculpture I
ART 289 Museum Study

COMMUNICATIONS

COM 231 Public Speaking

DRAMA

DRA 111 Theatre Appreciation

ENGLISH

ENG 111 Expository Writing
ENG 111A Expository Writing Lab
ENG 113 Literature-Based Research
ENG 114 Prof Research & Reporting
ENG 125 Creative Writing I
ENG 126 Creative Writing II
ENG 231 American Literature I
ENG 232 American Literature II
ENG 241 British Literature I
ENG 242 British Literature II

FOREIGN LANGUAGES

FRE 111 Elementary French I
FRE 112 Elementary French II
FRE 211 Intermediate French I
FRE 212 Intermediate French II
SPA 110 Introduction to Spanish
SPA 111 Elementary Spanish I
SPA 112 Elementary Spanish II
SPA 211 Intermediate Spanish I
SPA 212 Intermediate Spanish II

HUMANITIES

HUM 115 Critical Thinking
HUM 122 Southern Culture
HUM 123 Appalachian Culture
HUM 160 Introduction to Film
HUM 230 Leadership Development

MUSIC

MUS 110 Music Appreciation
MUS 113 American Music
MUS 114 Non-Western Music
MUS 121 Music Theory I
MUS 122 Music Theory II

PHILOSOPHY

PHI 210 History of Philosophy
PHI 215 Philosophical Issues
PHI 220 Western Philosophy I
PHI 221 Western Philosophy II
PHI 230 Introduction to Logic
PHI 240 Introduction to Ethics

RELIGION

REL 110 World Religions

Humanities

HUM 110 Technology and Society 3 0 3
Prerequisites: None
Corequisites: None
This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology.

HUM 115 Critical Thinking 3 0 3
Prerequisites: ENG 101 or ENG 111
Corequisites: None
This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. *This course may meet the SACS humanities requirement for AAS degree programs.*

HUM 122 Southern Culture **3 0 3**
Prerequisites: None
Corequisites: None
This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 123 Appalachian Culture **3 0 3**
Prerequisites: None
Corequisites: None
This course provides an interdisciplinary study of the unique features of Appalachian culture. Topics include historical, political, sociological, psychological, and artistic features which distinguish this region. Upon completion, students should be able to demonstrate a broad-based awareness and appreciation of Appalachian culture.

HUM 160 Introduction to Film **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. Attendance at five film showings and in-depth written analysis of one film are required. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 230 Leadership Development **3 0 3**
Prerequisites: ENG 111
Corequisites: None
This course explores the theories and techniques of leadership and group process. Emphasis is placed on leadership styles, theories of group dynamics, and the moral and ethical responsibilities of leadership. Upon completion, students should be able to identify and analyze a personal philosophy and style of leadership and integrate these concepts in various practical situations.

Hydraulics

HYD 110 Hydraulics/Pneumatics I **2 3 3**
Prerequisites: None
Corequisites: None
This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

HYD 112 Hydraulics/Medium/Heavy Duty **1 2 2**
Prerequisites: None
Corequisites: None
This course introduces hydraulic theory and applications as applied to mobile equipment. Topics include component studies such as pumps, motors, valves, cylinders, filters, reservoirs, lines, and fittings. Upon completion, students should be able to identify, diagnose, test, and repair hydraulic systems using schematics and technical manuals.

Industrial Science

ISC 121 Environmental Health and Safety **3 0 3**
Prerequisites: None
Corequisites: None
This course covers workplace environmental, health, and safety issues. Emphasis is placed on managing the implementation and enforcement of environmental health and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental, health, and safety issues.

ISC 131 Quality Management **3 0 3**
Prerequisites: None
Corequisites: None
This course provides a study and analysis of the aspects and implications of quality managment that lead to customer satisfaction through continuous quality improvement. Topics include Total Quality Management, ISO 9000, organizing for quality, supplier/vendor relationships, and the role of leadership in quality management. Upon completion, students should be able to demonstrate an understanding of quality management concepts and techniques.

ISC 210 Operations and Production Planning **3 0 3**
Prerequisites: Completion of curriculum mathematics requirement
Corequisites: None
This course includes the fundamentals of operations and production planning, forecasting, and scheduling. Topics include demand management, production planning and control, scheduling, and budgeting. Upon completion, students should be able to demonstrate an understanding of the concepts and techniques involved in operations and production planning. *This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.*

ISC 221 Statistical Quality Control **3 0 3**
Prerequisites: Completion of curriculum mathematics requirement
Corequisites: None
This course covers the principles and techniques of statistical process control for the improvement of productivity. Emphasis is placed on basic statistics for quality control, organization and procedures for efficient quality control including inspections, process control, and tests of significance. Upon completion, students should be able to apply statistical principles and techniques to enhance production.

ISC 225 Facility Layout 3 2 4
Prerequisites: None
Corequisites: None
This course provides a practical study of facility planning with emphasis on a structured approach to solving layout problems. Emphasis is placed on investigating and designing an effective facility layout. Upon completion, students should be able to design a basic work area indicating effective use of allowable resources.

Machining

MAC 111 Machining Technology I 2 12 6
Prerequisites: None
Corequisites: None
This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 112 Machining Technology II 2 12 6
Prerequisites: MAC 111
Corequisites: None
This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 113 Machining Technology III 2 12 6
Prerequisites: MAC 112
Corequisites: None
This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

MAC 114 Introduction to Metrology 2 0 2
Prerequisites: None
Corequisites: None
This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

MAC 121 Introduction to CNC 2 0 2
Prerequisites: None
Corequisites: None
This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

MAC 122 CNC Turning **1 3 2**

Prerequisites: None

Corequisites: None

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

MAC 124 CNC Milling **1 3 2**

Prerequisites: None

Corequisites: None

This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.

MAC 151 Machining Calculations **1 2 2**

Prerequisites: None

Corequisites: None

This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

MAC 152 Advanced Machining Calculations **1 2 2**

Prerequisites: None

Corequisites: None

This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

MAC 153 Compound Angles **1 2 2**

Prerequisites: None

Corequisites: None

This course introduces the application of basic types and uses of compound angles. Emphasis is placed on problem solving by tilting and rotating adjacent angles to resolve an unknown compound angle. Upon completion, students should be able to set up and develop compound angles on parts using problem-solving techniques. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

MAC 214 Machining Technology IV **2 12 6**

Prerequisites: MAC 112

Corequisites: None

This course provides advanced applications and practical experience in the manufacturing of complex parts. Emphasis is placed on inspection, gaging, and the utilization of machine tools. Upon completion, students should be able to manufacture complex assemblies to specifications

MAC 224 Advanced CNC Milling 1 3 2
Prerequisites: MAC 124
Corequisites: None
This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

MAC 226 CNC EDM Machining 1 3 2
Prerequisites: None
Corequisites: None
This course introduces the programming, setup, and operation of CNC electrical discharge machines. Topics include programming formats, control functions, program editing, production of parts, and inspection. Upon completion, students should be able to manufacture simple parts using CNC electrical discharge machines.

MAC 229 CNC Programming 2 0 2
Prerequisites: MAC 121, MAC 122, MAC 124, or MAC 226
Corequisites: None
This course provides concentrated study in advanced programming techniques for working with modern CNC machine tools. Topics include custom macros and subroutines, canned cycles, and automatic machining cycles currently employed by the machine tool industry. Upon completion, students should be able to program advanced CNC functions while conserving machine memory.

MAC 241 Jigs and Fixtures I 2 6 4
Prerequisites: MAC 112
Corequisites: None
This course introduces the application and use of jigs and fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.

MAC 243 Die Making I 2 6 4
Prerequisites: MAC 112
Corequisites: None
This course introduces the principles and applications of die making. Topics include types, construction, and application of dies. Upon completion, students should be able to design and build simple dies.

MAC 244 Die Making II 1 9 4
Prerequisites: MAC 243
Corequisites: None
This course provides continued study in the application and use of dies. Emphasis is placed on the design and manufacturing of complex dies. Upon completion, students should be able to design and build complex dies. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

MAC 245 Mold Construction I 2 6 4
Prerequisites: MAC 112
Corequisites: None
This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds.

MAC 246 Mold Construction II 1 9 4
Prerequisites: MAC 245
Corequisites: None
This course provides continued study in the application and use of molds. Emphasis is placed on design and manufacturing of complex molds. Upon completion, students should be able to design and build complex molds. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

MAC 247 Production Tooling 2 0 2
Prerequisites: MAC 111
Corequisites: None
This course provides advanced study in tooling currently utilized in the production of metal parts. Emphasis is placed on the proper use of tooling used on CNC and other production machine tools. Upon completion, students should be able to choose proper tool grades based on manufacturing requirements and troubleshoot carbide tooling problems.

Mathematics

MAT 060 Essential Mathematics 3 2 4
Prerequisites: MAT 050
Corequisites: RED 080
This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate. The operation of a scientific calculator is an essential part of the insructional methodology, and all students are expected to have one.

MAT 070 Introductory Algebra 3 2 4
Prerequisites: MAT 060
Corequisites: RED 080
This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 080 Intermediate Algebra 3 2 4
Prerequisites: MAT 070
Corequisites: RED 080
This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 090 Accelerated Algebra **3 2 4**
Prerequisites: MAT 060
Corequisites: RED 080

This course covers algebraic concepts with emphasis on applications. Topics include those covered in MAT 070 and MAT 080. Upon completion, students should be able to apply algebraic concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 101 Applied Mathematics I **2 2 3**
Prerequisites: MAT 060
Corequisites: None

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. *This course is intended for certificate and diploma programs.*

MAT 115 Mathematical Models **2 2 3**
Prerequisites: MAT 070
Corequisites: None

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 121 Algebra/Trigonometry I **2 2 3**
Prerequisites: MAT 070
Corequisites: None

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic, radical, exponential, and logarithmic functions; descriptive statistics; right triangle trigonometry; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results.

MAT 122 Algebra/Trigonometry II **2 2 3**
Prerequisites: MAT 121
Corequisites: None

This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, trigonometry, and systems of equations. Topics include translation and scaling of functions, Sine Law, Cosine Law, complex numbers, vectors, statistics, and systems of equations. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results.

MAT 140 Survey of Mathematics 3 0 3
Prerequisites: MAT 070
Corequisites: None
This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics may include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 140A Survey of Mathematics Lab 0 2 1
Prerequisites: MAT 070
Corequisites: MAT 140
This course is a laboratory for MAT 140. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively.

MAT 151 Statistics I 3 0 3
Prerequisites: MAT 080 or MAT 090
Corequisites: None
This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample data. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 151A Statistics I Lab 0 2 1
Prerequisites: MAT 080 or MAT 090
Corequisites: MAT 151
This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 155 Statistical Analysis 3 0 3
Prerequisites: MAT 080 or MAT 090
Corequisites: None
This course is an introduction to descriptive and inferential statistics. Topics include sampling, distributions, plotting data, central tendency, dispersion, C.L.T., confidence intervals, hypothesis testing, correlations, regressions, and multinomial experiments. Upon completion, students should be able to describe data and test inferences about populations using sample data.

MAT 155A Statistical Analysis Lab **0 2 1**
Prerequisites: MAT 080 or MAT 090
Corequisites: MAT 155
This course is a laboratory for MAT 155. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively.

MAT 161 College Algebra **3 0 3**
Prerequisites: MAT 080 or MAT 090
Corequisites: None
This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on equations and inequalities; polynomials, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 161A College Algebra Lab **0 2 1**
Prerequisites: MAT 080 or MAT 090
Corequisites: MAT 161
This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 162 College Trigonometry **3 0 3**
Prerequisites: MAT 161
Corequisites: None
This course provides an integrated technological approach to trigonometry and its applications. Topics include trigonometric ratios, right triangles, oblique triangles, trigonometric functions, graphing, vectors, and complex numbers. Upon completion, students should be able to apply the above principles of trigonometry to problem solving and communication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 162A College Trigonometry Lab **0 2 1**
Prerequisites: MAT 161
Corequisites: MAT 162
This course is a laboratory for MAT 162. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 171 Precalculus Algebra **3 0 3**
Prerequisites: MAT 080 or MAT 090
Corequisites: None
This is the first of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on equations and inequalities, functions (linear, polynomial, rational), systems of equations and inequalities, and parametric equations. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and predictions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 171A Precalculus Algebra Lab **0 2 1**
Prerequisites: MAT 080 or MAT 090
Corequisites: MAT 171
This course is a laboratory for MAT 171. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 172 Precalculus Trigonometry **3 0 3**
Prerequisites: MAT 171
Corequisites: None
This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, and vectors. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 172A Precalculus Trigonometry Lab **0 2 1**
Prerequisites: MAT 171
Corequisites: MAT 172
This course is a laboratory for MAT 172. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 175 Precalculus **4 0 4**
Prerequisites: High School Algebra III/Trigonometry
Corequisites: None
This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 175A Precalculus Lab **0 2 1**
Prerequisites: High School Algebra III/Trigonometry
Corequisites: MAT 175
This course is a laboratory for MAT 175. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 223 Applied Calculus **2 2 3**
Prerequisites: MAT 122
Corequisites: None

This course provides an introduction to the calculus concepts of differentiation and integration by way of application and is designed for engineering technology students. Topics include limits, slope, derivatives, related rates, areas, integrals, and applications. Upon completion, students should be able to demonstrate an understanding of the use of calculus and technology to solve problems and to analyze and communicate results.

MAT 263 Brief Calculus **3 0 3**
Prerequisites: MAT 161
Corequisites: None

This course introduces concepts of differentiation and integration and their applications to solving problems; the course is designed for students needing one semester of calculus. Topics include functions, graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 271 Calculus I **3 2 4**
Prerequisites: MAT 172 or MAT 175
Corequisites: None

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 272 Calculus II **3 2 4**
Prerequisites: MAT 271
Corequisites: None

This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 273 Calculus III **3 2 4**
Prerequisites: MAT 272
Corequisites: None

This course covers the calculus of several variables and is third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 273A Calculus III Lab **0 2 1**
Prerequisites: MAT 272
Corequisites: MAT 273
This course is a laboratory for MAT 273. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

MAT 285 Differential Equations **3 0 3**
Prerequisites: MAT 272
Corequisites: None
This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena.

Mechanical

MEC 110 Introduction to CAD/CAM **1 2 2**
Prerequisites: None
Corequisites: None
This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program

MEC 141 Introduction to Manufacturing Processes **2 2 3**
Prerequisites: None
Corequisites: None
This course covers the properties and characteristics of manufacturing materials and the processes used to form them. Emphasis is placed on manufacturing materials, heat-treating processes, and manufacturing processes. Upon completion, students should be able to identify physical characteristics of materials and describe processes used to manufacture a part.

MEC 142 Physical Metallurgy **1 2 2**
Prerequisites: None
Corequisites: None
This course covers the heat treating of metals. Emphasis is placed on the effects of hardening, tempering, and annealing on the structure and physical properties of metals. Upon completion, students should be able to heat treat materials.

***MEC 161 Manufacturing Processes I** **3 0 3**
Prerequisites: None
Corequisites: None
This course provides the fundamental principles of processing materials into usable forms for the customer. Emphasis is placed on material forming, removal, and value-added processing provided to the customer by the manufacturers. Upon completion, students should be able to apply principles of traditional and non-traditional processing for metals and non-metals.

***MEC 161A Manufacturing Processes I Lab** 0 3 1
Prerequisites: None
Corequisites: MEC 161
This course is a laboratory for MEC 161. Emphasis is placed on experiences that enhance the materials presented in MEC 161. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in MEC 161.

***MEC 180 Engineering Materials** 2 3 3
Prerequisites: None
Corequisites: None
This course covers the physical and mechanical properties of materials. Topics include testing, heat treating, ferrous and non-ferrous metals, plastics, composites, and material selection. Upon completion, students should be able to specify basic tests and properties and select appropriate materials on the basis of specific properties

MEC 231 Computer-Aided Manufacturing I 1 4 3
Prerequisites: None
Corequisites: None
This course introduces computer-aided manufacturing (CAM) applications and concepts. Emphasis is placed on developing/defining part geometry and the processing information needed to manufacture parts. Upon completion, students should be able to demonstrate skills in defining part geometry, program development, and code generation using CAM software.

MEC 232 Computer-Aided Manufacturing II 1 4 3
Prerequisites: MEC 231
Corequisites: None
This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software.

***MEC 237 Control Systems** 3 2 4
Prerequisites: MAT 122 and PHY 122
Corequisites: None
This course covers basic principles of control systems. Topics include the basic principles of electrical, electronic, and pneumatic control systems as related to industrial applications. Upon completion, students should be able to understand the design and function of circuits, motors, transducers, servomechanisms, and other devices.

MEC 250 Statics and Strength of Materials 4 3 5
Prerequisites: PHY 131 or PHY 151
Corequisites: None
This course covers the concepts and principles of statics and stress analysis. Topics include systems of forces on structures in equilibrium and analysis of stresses and strains on these components. Upon completion, students should be able to analyze forces and the results of stresses and strains on structural components.

***MEC 261 Manufacturing Process II 2 4 4**
Prerequisites: MEC 161
Corequisites: None
This course covers advanced manufacturing processes. Topics include advanced concepts of work handling, automated manufacturing processes, production methods, and setups. Upon completion, students should be able to set up to manufacture a product on a production basis.

MEC 267 Thermal Systems 2 2 3
Prerequisites: PHY 131 or PHY 151
Corequisites: None
This course introduces the fundamental laws of thermodynamics. Topics include work and energy, open and closed systems, and heat engines. Upon completion, students should be able to demonstrate a knowledge of the laws and principles that apply to thermal power.

***MEC 270 Machine Design 3 3 4**
Prerequisites: DFT 151, MEC 180, and MEC 250 or MEC 251 and MEC 252
Corequisites: None
This course covers the basic principles underlying design and selection of machine elements. Topics include stress analysis, selection of components, power transmission, and other design considerations. Upon completion, students should be able to identify and solve mechanical design problems by applying basic engineering principles.

MEC 275 Engineering Mechanisms 2 2 3
Prerequisites: DFT 151 and PHY 131 or PHY 151
Corequisites: None
This course covers plane motion and devices used to generate plane motion. Topics include analysis of displacement, velocity, acceleration, gears, cams, and other mechanical systems. Upon completion, students should be able to graphically and mathematically analyze a plane motion system.

MEC 288 Manufacturing Engineering Research and Design Project 0 2 1
Prerequisites: None
Corequisites: None
This course provides an opportunity to research specific interest areas in the field of manufacturing engineering. Emphasis is on a specific area of concern. Upon completion, students should be able to demonstrate competence through a hands-on project.

Marketing and Retailing

MKT 120 Principles of Marketing 3 0 3
Prerequisites: None
Corequisites: None
This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

MKT 121 Retailing 3 0 3
Prerequisites: None
Corequisites: None
This course examines the role of retailing in the economy. Topics include the development of present retail structure, functions performed, effective operations, and managerial problems resulting from current economic and social trends. Upon completion, students should be able to demonstrate an understanding of the basic principles of retailing.

MKT 122 Visual Merchandising **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces basic layout design and commercial display in retail and service organizations. Topics include an analysis of display as a visual merchandising medium and an examination of the principles and applications of display and design. Upon completion, students should be able to plan, build, and evaluate designs and displays. *This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.*

MKT 123 Fundamentals of Selling **3 0 3**
Prerequisites: None
Corequisites: None
This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

MKT 220 Advertising and Sales Promotion **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application.

MKT 221 Consumer Behavior **3 0 3**
Prerequisites: None
Corequisites: None
This course is designed to describe consumer behavior as applied to the exchange processes involved in acquiring, consuming, and disposing of goods and services. Topics include an analysis of basic and environmental determinants of consumer behavior with emphasis on the decision-making process. Upon completion, students should be able to analyze concepts related to the study of the individual consumer.

MKT 224 International Marketing **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the basic concepts of international marketing activity and theory. Topics include product promotion, placement, and pricing strategies in the international marketing environment. Upon completion, students should be able to demonstrate a basic understanding of the concepts covered.

MKT 225 Marketing Research **3 0 3**
Prerequisites: MKT 120
Corequisites: None
This course provides information for decision making by providing guidance in developing, analyzing, and using data. Emphasis is placed on marketing research as a tool in decision making. Upon completion, students should be able to design and conduct a marketing research project and interpret the results. *This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.*

MKT 226 Retail Applications **3 0 3**
Prerequisites: None
Corequisites: None
This course is designed to develop occupational competence through participation in case studies, group work, and simulations. Emphasis is placed on all aspects of store ownership and operation, including securing financial backing and a sufficient market share. Upon completion, students should be able to demonstrate an understanding of concepts covered through application. *This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.*

Medical Laboratory Technology

MLT 110 Introduction to MLT **2 3 0 3**
Prerequisites: Enrollment in the Medical Laboratory Technology program
Corequisites: None
This course is designed to introduce all aspects of the medical laboratory profession. Topics include health care/laboratory organization, professional ethics, basic laboratory techniques, safety, quality assurance, and specimen collection. Upon completion, students should be able to demonstrate a basic understanding of laboratory operations and be able to perform basic laboratory skills.

MLT 111 Urinalysis and Body Fluids **1 3 0 2**
Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163
Corequisites: None
This course introduces the laboratory analysis of urine and body fluids. Topics include physical, chemical, and microscopic examination of the urine and body fluids. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting urinalysis and body fluid tests.

MLT 120 Hematology/Hemostasis **3 3 0 4**
Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163
Corequisites: None
This course introduces the theory and technology used in analyzing blood cells and the study of hemostasis. Topics include hematology, hemostasis, and related laboratory testing. Upon completion, students should be able to demonstrate theoretical comprehension of hematology/hemostasis, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 126 Immunology and Serology **1 2 0 2**
Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163
Corequisites: None
This course introduces the immune system and response and basic concepts of antigens, antibodies, and their reactions. Emphasis is placed on basic principles of immunologic and serodiagnostic techniques and concepts of cellular and humoral immunity in health and disease. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing and interpreting routine immunologic and serodiagnostic procedures.

MLT 127 Transfusion Medicine 2 3 0 3
Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 126
Corequisites: None

This course introduces the blood group systems and their applications in transfusion medicine. Emphasis is placed on blood bank techniques including blood grouping and typing, pretransfusion testing, donor selection and processing, and blood component preparation and therapy. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing/interpreting routine blood bank procedures and recognizing/resolving common problems.

MLT 130 Clinical Chemistry 3 3 0 4
Prerequisites: Enrollment in the Medical Laboratory Technology program CHM 130, CHM 130A
Corequisites: None

This course introduces the quantitative analysis of blood and body fluids and their variations in health and disease. Topics include clinical biochemistry, methodologies, instrumentation, and quality control. Upon completion, students should be able to demonstrate theoretical comprehension of clinical chemistry, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 140 Introduction to Microbiology 2 3 0 3
Prerequisites: Enrollment in the Medical Laboratory Technology program
Corequisites: None

This course is designed to introduce basic techniques and safety procedures in clinical microbiology. Emphasis is placed on the morphology and identification of common pathogenic organisms, aseptic technique, staining techniques, and usage of common media. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting basic clinical microbiology procedures.

MLT 210 CLA-MLT Transition 4 0 0 4
Prerequisites: Completion of a one-year CAHEA approved medical laboratory assistant program
Corequisites: None

This course provides an overview of the changes that have occurred in medical laboratory technology. Topics include new test methodologies, current clinical practices, and relevant governmental regulations. Upon completion, students should be able to demonstrate theoretical comprehension of current issues and technical topics in the medical laboratory setting.

MLT 215 Professional Issues 1 0 0 1
Prerequisites: Enrollment in the Medical Laboratory Technology program
Corequisites: None

This course surveys professional issues in preparation for career entry. Emphasis is placed on work readiness and theoretical concepts in microbiology, immunohematology, hematology, and clinical chemistry. Upon completion, students should be able to demonstrate competence in career entry-level areas and be prepared for the national certification examination.

MLT 240 Special Clinic Microbiology 2 3 0 3
Prerequisites: MLT 140
Corequisites: None

This course is designed to introduce special techniques in clinical microbiology. Emphasis is placed on advanced areas in microbiology. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting specialized clinical microbiology procedures.

***MLT 252 MLT Practicum I** 0 0 6 2**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 120, MLT 240, MLT 126, MLT 130, BIO 163, CHM 130, and CHM 130A

Corequisites: MLT 111, MLT 127

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of Phlebotomy.

***MLT 254 MLT Practicum I** 0 0 12 4**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of blood banking.

***MLT 255 MLT Practicum I** 0 0 15 5**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of microbiology.

***MLT 261 MLT Practicum II** 0 0 3 1**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of urinalysis.

***MLT 265 MLT Practicum II** 0 0 15 5**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of hematology.

***MLT 275 MLT Practicum III** 0 0 15 5**

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of clinical chemistry.

**** MLT 252, 254, 255, 261, 265, 275**

Because of clinical space restrictions, students will have individual schedules for MLT Practicums. As assigned by the department chairperson, students will register for the following courses. During each student's first clinical experience course general hospital orientation will be covered.

Music

MUS 110 Music Appreciation 3 0 3
Prerequisites: None
Corequisites: None
This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

MUS 113 American Music 3 0 3
Prerequisites: None
Corequisites: None
This course introduces various musical styles, influences, and composers of the United States from pre-Colonial times to the present. Emphasis is placed on the broad variety of music particular to American culture. Upon completion, students should be able to demonstrate skills in basic listening and understanding of American music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

MUS 114 Non-Western Music 3 0 3
Prerequisites: None
Corequisites: None
This course provides a basic survey of the music of the non-Western world. Emphasis is placed on non-traditional instruments, sources, and performing practices. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of non-Western music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

MUS 121 Music Theory I 3 2 4
Prerequisites: None
Corequisites: None
This course provides an in-depth introduction to melody, rhythm, and harmony. Emphasis is placed on fundamental melodic, rhythmic, and harmonic analysis, introduction to part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above.

MUS 122 Music Theory II 3 2 4
Prerequisites: MUS 121
Corequisites: None
This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic, rhythmic, and harmonic analysis and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above.

Networking Technology

NET 110 Data Communication/Networking 2 2 3
Prerequisites: CIS 110 or CIS 111
Corequisites: None
This course introduces data communication and networking. Topics include telecommunication standards, protocols, equipment, network topologies, communication software, LANs, WANs, the Internet, and network operating systems. Upon completion, students should be able to demonstrate understanding of the fundamentals of telecommunication and networking.

NET 115 Telecommunication Fundamentals 1 2 2
Prerequisites: CIS 110 or CIS 111
Corequisites: None
This course covers the fundamentals of the electronic transfer of information for those who have not received credit for NET 110. Topics include terminal emulation software usage, file transfer methods, PC-based fax/modem/voice-mail operations, accessing and navigating the Internet, and bulletin boards. Upon completion, students should be able to access and use on-line services and the Internet, send and receive e-mail, and perform other basic telecommunication operations.

NET 120 Network Installation/Administration I 2 2 3
Prerequisites: NET 110
Corequisites: None
This course covers the installation and administration of network hardware and system software. Topics include network topologies, various network operating systems, server and workstation installation and configuration, printer services, and connectivity options. Upon completion, students should be able to perform basic installation and administration of departmental networks.

Nursing

***NUR 101 Practical Nursing I** 7 6 6 11
Prerequisites: Enrollment in the Practical Nursing program
Corequisites: None
This course introduces concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. *This is a diploma-level course.*

***NUR 102 Practical Nursing II** 8 0 12 12
Prerequisites: BIO 163, NUR 101, and PSY 110
Corequisites: None
This course includes more advanced concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. *This is a diploma-level course.*

***NUR 103 Practical Nursing III** **6 0 12 10**
Prerequisites: NUR 102
Corequisites: None
This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. *This is a diploma-level course.*

***NUR 115 Fundamentals of Nursing** **2 3 6 5**
Prerequisites: Admission to the Associate Degree Nursing program
Corequisites: None
This course introduces concepts basic to beginning nursing practice. Emphasis is placed on the application of the nursing process to provide and manage care as a member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations of health.

NUR 116 Nursing of Older Adults **2 3 3 4**
Prerequisites: NUR 135
Corequisites: None
This course provides an opportunity to utilize the provider of care and manager of care roles to meet nursing needs of older adults in a variety of settings. Emphasis is placed on the aging process as it applies to normal developmental changes and alterations in health commonly occuring in the older adult. Upon completion, students should be able to apply the nursing process in caring for the older adult.

***NUR 117 Pharmacology** **1 3 0 2**
Prerequisites: None
Corequisites: None
This course introduces information concerning sources, effects, legalities, and the safe use of medications as therapeutic agents. Emphasis is placed on nursing responsibility, accountability, and application of the nursing process regarding drug therapy. Upon completion, students should be able to compute dosages and administer medication safely.

NUR 125 Maternal-Child Nursing **5 3 6 8**
Prerequisites: NUR 115
Corequisites: None
This course introduces nursing concepts related to the delivery of nursing care for the expanding family. Emphasis is placed on utilizing the nursing process as a framework for managing/providing nursing care to individuals and families along the wellness-illness continuum. Upon compleion, students should be able to utilize the nursing process to deliver nursing care to mothers, infants, children, and families.

***NUR 133 Nursing Assessment** **2 3 0 3**
Prerequisites: None
Corequisites: None
This course provides theory and application experience for performing nursing assessment of individuals across the life span. Emphasis is placed on interviewing and physical assessment techniques and documentation of findings appropriate for nursing. Upon completion, students should be able to complete a health history and perform a noninvasive physical assessment.

***NUR 135 Adult Nursing I** **5 3 9 9**
Prerequisites: NUR 115 BIO 168
Corequisites: None
This course introduces concepts related to the nursing care of individuals experiencing acute and chronic alterations in health. Emphasis is placed on utilizing the nursing process as a framework for providing and managing nursing care to individuals along the wellness-illness continuum. Upon completion, students should be able to apply the nursing process to individuals experiencing acute and chronic alterations in health.

***NUR 185 Mental Health Nursing** **3 0 6 5**
Prerequisites: NUR 115 NUR 135
Corequisites: None
This course includes concepts related to the nursing care of individuals experiencing alterations in social and psychological functioning. Emphasis is placed on utilizing the nursing process to provide and manage nursing care for individuals with common psychiatric disorders or mental health needs. Upon completion, students should be able to apply psychosocial theories in the nursing care of individuals with psychiatric/mental health needs.

***NUR 188 Nursing in the Community** **1 0 6 3**
Prerequisites: NUR 115 NUR 135
Corequisites: None
This course introduce's concepts and practices of community-based nursing nursing care across the life span. Topics include home care history, agency regulation/standards, nurse's roles, the interdisciplinary team, and the application of nursing care to the community setting. Upon completion, students should be able to provide nursing care, manage nursing care, and function as a member of the discipline in home health care.

***NUR 189 Nursing Transition** **1 3 0 2**
Prerequisites: None
Corequisites: None
This course is designed to assist the licensed practical nurse in transition to the role of the associate degree nurse. Topics include the role of the registered nurse, nursing process, homeostasis, and validation of selected nursing skills and physical assessment. Upon completion, students should be able to articulate into the ADN program at the level of the generic student.

***NUR 235 Adult Nursing II** **4 3 15 10**
Prerequisites: NUR 135 BIO 169
Corequisites: None
This course provides expanded concepts related to nursing care for individuals experiencing common complex alterations in health. Emphasis is placed on the nurse's role as a member of a multidisciplinary team and as a manager of care for a group of individuals. Upon completion, students should be able to provide comprehensive nursing care for groups of individuals with common complex alterations in health.

***NUR 255 Professional Issues** **3 0 0 3**
Prerequisites: NUR 135
Corequisites: None
This course explores basic concepts of practice in the management of patient care in a complex health care system. Emphasis is placed on professional, legal, ethical, and political issues and management concepts. Upon completion, students should be able to articulate professional and management concepts.

Nutrition

NUT 110 Nutrition 3 0 3
Prerequisites: None
Corequisites: None
This course covers basic principles of nutrition and their relationship to human health. Topics include meeting nutritional needs of healthy people, menu modification based on special dietary needs, food habits, and contemporary problems associated with food selection. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

Operations Management

OMT 112 Materials Management 3 0 3
Prerequisites: None
Corequisites: None
This course covers the basic principles of materials management. Emphasis is placed on the planning, procurement, movement, and storage of materials. Upon completion, students should be able to demonstrate an understanding of the concepts and techniques related to materials management. *This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.*

***OMT 260 Issues in Operations Management** 3 0 3
Prerequisites: ISC 121, ISC 131, ISC 210 and OMT 112
Corequisites: None
This course presents a variety of topics that highlight contemporary problems and issues related to operations management. Emphasis is placed on production and operations planning, environmental health and safety, materials management, and quality systems. Upon completion, students should be able to demonstrate the ability to make decisions and resolve problems in an operations management environment. *This course is a unique concentration requirement of the Operations Management concentration in the Business Administration program.*

Office Systems Technology

OST 080 Keyboarding Literacy 1 2 2
Prerequisites: None
Corequisites: None
This course is designed to develop elementary keyboarding skills. Emphasis is placed on mastery of the keyboard. Upon completion, students should be able to demonstrate basic proficiency in keyboarding.

OST 131 Keyboarding 1 2 2
Prerequisites: None
Corequisites: None
This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system.

OST 132 Keyboard Skill Building 1 2 2
Prerequisites: OST 134
Corequisites: None

This course provides accuracy and speed-building drills. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed.

OST 134 Text Entry and Formatting 3 2 4
Prerequisites: OST 131
Corequisites: None

This course is designed to provide the skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce mailable documents.

OST 136 Word Processing 1 2 2
Prerequisites: OST 080 or OST 131
Corequisites: None

This course introduces word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment.

OST 137 Office Software Applications 1 2 2
Prerequisites: CIS 110 and (OST 080 or OST 131)
Corequisites: None

This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands-on approach. Upon completion, students should be able to use software in a business environment.

OST 164 Text Editing Applications 3 0 3
Prerequisites: OST 131 and ENG 111
Corequisites: None

This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

OST 184 Records Management 1 2 2
Prerequisites: None
Corequisites: None

This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system. ARMA indexing rules are used.

OST 192 Selected Topics in Office Systems Technology **2 0 2**
Prerequisites: CIS 110
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. This course presents user-oriented fundamentals of files and software management.

OST 223 Machine Transcription I **1 2 2**
Prerequisites: OST 134, OST 136 and OST 164
Corequisites: None
This course covers the use of transcribing machines to produce mailable documents. Emphasis is placed on appropriate formatting, advanced text editing skills, and transcription techniques. Upon completion, students should be able to transcribe documents into mailable copy.

OST 236 Advanced Word and Information Processing **2 2 3**
Prerequisites: OST 136
Corequisites: None
This course develops proficiency in the utilization of advanced word/information processing functions. Topics include tables, graphics, macros, sorting, document assembly, merging, and newspaper and brochure columns. Upon completion, students should be able to produce a variety of complex business documents.

***OST 284 Emerging Technologies** **2 0 2**
Prerequisites: CIS 110 and second year status
Corequisites: None
This course provides opportunities to explore emerging technologies. Emphasis is placed on identifying, researching, and presenting current technological topics for class consideration and discussion. Upon completion, students should be able to understand the importance of keeping abreast of technological changes that affect the office professional.

***OST 286 Professional Development** **2 0 2**
Prerequisites: None
Corequisites: None
This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, healthy lifestyles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

***OST 289 Office Systems Management** **2 2 3**
Prerequisites: OST 134, OST 136, and OST 164
Corequisites: None
This course provides a capstone course for the office professional. Topics include administrative office procedures, imaging, communication techniques, ergonomics, and equipment utilization. Upon completion, students should be able to function proficiently in a changing office environment.

OST 292 Selected Topics in Office Systems Technology **1 2 2**
Prerequisites: OST 293
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. Students use integrated software tools to solve problems in a simulated work environment.

OST 293 Selected Topics in Office Systems Technology **2 2 3**
Prerequisites: CIS 110, CIS 120, and OST 136
Corequisites: None
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. The management of office integrated technologies is emphasized.

Phlebotomy

***PBT 100 Phlebotomy Technology** **5 2 0 6**
Prerequisites: Enrollment in the Phlebotomy Technology program
Corequisites: PBT 101
This course provides instruction in the skills needed for the proper collection of blood and other specimens used for diagnostic testing. Emphasis is placed on ethics, legalities, medical terminology, safety and universal precautions, health care delivery systems, patient relations, anatomy and physiology, and specimen collection. Upon completion, students should be able to demonstrate competence in the theoretical comprehension of phlebotomy techniques. *This is a certificate-level course.*

***PBT 101 Phlebotomy Practicum** **0 0 9 3**
Prerequisites: Enrollment in the Phlebotomy Technology program
Corequisites: PBT 100
This course provides supervised experience in the performance of venipuncture and microcollection techniques in a clinical facility. Emphasis is placed on patient interaction and application of universal precautions, proper collection techniques, special procedures, specimen handling, and data management. Upon completion, students should be able to safely perform procedures necessary for specimen collections on patients in various health care settings. *This is a certificate-level course.*

Physical Education

PED 110 Fit and Well for Life **1 2 2**
Prerequisites: None
Corequisites: None
This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests.

PED 111 Physical Fitness I **0 3 1**
Prerequisites: None
Corequisites: None
This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program.

PED 112 Physical Fitness II **0 3 1**
Prerequisites: PED 111 or Department Approval
Corequisites: None
This course is an intermediate-level fitness class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness program.

PED 113 Aerobics I **0 3 1**
Prerequisites: None
Corequisites: None
This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program.

PED 114 Aerobics II **0 3 1**
Prerequisites: PED 113 or Department Approval
Corequisites: None
This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine.

PED 115 Step Aerobics I **0 3 1**
Prerequisites: None
Corequisites: None
This course introduces the fundamentals of step aerobics. Emphasis is placed on basic stepping up and down on an adjustable platform; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic step aerobics.

PED 116 Step Aerobics II **0 3 1**
Prerequisites: PED 115 or Department Approval
Corequisites: None
This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, students should be able to participate in and design a step aerobics routine.

PED 117 Weight Training I **0 3 1**
Prerequisites: None
Corequisites: None
This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program.

PED 118 Weight Training II **0 3 1**
Prerequisites: PED 117 or Department Approval
Corequisites: None
This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program.

PED 121 Walk, Jog, Run **0 3 1**
Prerequisites: None
Corequisites: None
This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities.

PED 128 Golf-Beginning **0 2 1**
Prerequisites: None
Corequisites: None
This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf.

PED 129 Golf-Intermediate **0 2 1**
Prerequisites: PED 128
Corequisites: None
This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the games such as club selection, trouble shots, and course management. Upon completion, students should be able demonstrate the knowledge and ability to play a recreational round of golf.

PED 130 Tennis-Beginning **0 2 1**
Prerequisites: None
Corequisites: None
This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis.

PED 131 Tennis-Intermediate **0 2 1**
Prerequisites: PED 130 or Department Approval
Corequisites: None
This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, strokes, pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis.

PED 139 Bowling-Beginning **0 2 1**
Prerequisites: None
Corequisites: None
This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling.

PED 140 Bowling-Intermediate 0 2 1
Prerequisites: PED 139
Corequisites: None
This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling.

PED 142 Lifetime Sports 0 2 1
Prerequisites: None
Corequisites: None
This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities.

PED 143 Volleyball-Beginning 0 2 1
Prerequisites: None
Corequisites: None
This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball.

PED 144 Volleyball-Intermediate 0 2 1
Prerequisites: PED 143 or Department Approval
Corequisites: None
This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball.

PED 145 Basketball-Beginning 0 2 1
Prerequisites: None
Corequisites: None
This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball.

PED 146 Basketball-Intermediate 0 2 1
Prerequisites: PED 145
Corequisites: None
This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level.

PED 148 Softball 0 2 1
Prerequisites: None
Corequisites: None
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball.

PED 171 Nature Hiking **0 2 1**
Prerequisites: None
Corequisites: None
This course provides instruction on how to equip and care for oneself on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes.

PED 210 Team Sports **0 3 1**
Prerequisites: None
Corequisites: None
This course introduces the fundamentals of popular American team sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered.

PED 220 Exercise for Physically Challenged **0 2 1**
Prerequisites: None
Corequisites: None
This course is designed to improve physical strength, endurance, and range of motion while focusing on individual needs. Emphasis is placed on exercises which are designed and adapted to serve those with special needs. Upon completion, students should be able to show improved physical fitness, body awareness, and an appreciation for their physical well-being.

Philosophy

PHI 210 History of Philosophy **3 0 3**
Prerequisites: ENG 111
Corequisites: None
This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

PHI 215 Philosophical Issues **3 0 3**
Prerequisites: ENG 111
Corequisites: None
This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

PHI 220 Western Philosophy I **3 0 3**
Prerequisites: ENG 111
Corequisites: None
This course covers Western intellectual and philosophic thought from the early Greeks through the medievalists. Emphasis is placed on such figures as the pre-Socratics, Plato, Aristotle, Epicurus, Epictetus, Augustine, Suarez, Anselm, and Aquinas. Upon completion, students should be able to trace the development of leading ideas regarding reality, knowledge, reason, and faith. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

PHI 221 Western Philosophy II 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course covers Western intellectual and philosophic thought from post-medievalists through recent thinkers. Emphasis is placed on such figures as Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Marx, Mill, and representatives of pragmatism, logical positivism, and existentialism. Upon completion, students should be able to trace the development of leading ideas concerning knowledge, reality, science, society, and the limits of reason. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

PHI 230 Introduction to Logic 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning.

PHI 240 Introduction to Ethics 3 0 3
Prerequisites: ENG 111
Corequisites: None
This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice.

Physics

PHY 110 Conceptual Physics 3 0 3
Prerequisites: None
Corequisites: PHY 110A
This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. Nonmathematical discussions of practical applications in such areas as weather and electricity will be stressed. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

PHY 110A Conceptual Physics Lab 0 2 1
Prerequisites: None
Corequisites: PHY 110
This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

PHY 131 Physics-Mechanics **3 2 4**

Prerequisites: MAT 121

Corequisites: None

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 151 College Physics I **3 2 4**

Prerequisites: MAT 162, MAT 172, or MAT 175

Corequisites: None

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

PHY 152 College Physics II **3 2 4**

Prerequisites: PHY 151

Corequisites: None

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

***PHY 251 General Physics I** **4 3 5**

Prerequisites: MAT 271

Corequisites: MAT 272

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

***PHY 252 General Physics II** **3 3 4**

Prerequisites: MAT 272 and PHY 251

Corequisites: None

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

Political Science

POL 120 American Government 3 0 3
Prerequisites: None
Corequisites: None
This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

POL 130 State and Local Government 3 0 3
Prerequisites: None
Corequisites: None
This course includes state and local political institutions and practices in the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with intergovernmental politics and their effect on the community and the individual.

POL 210 Comparative Government 3 0 3
Prerequisites: None
Corequisites: None
This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. *his course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.*

Psychology

PSY 101 Applied Psychology 3 0 3
Prerequisites: None
Corequisites: None
This course introduces the basic principles of psychology as they apply to daily life. Topics include perception, emotions, motivation, adjustment, behavior management, communication, and related topics that promote growth and development on the job and in one's personal life. Upon completion, students should be able to apply the principles learned in this class to everyday living. *This course is intended for certificate and diploma programs.*

PSY 102 Human Relations 2 0 2
Prerequisites: None
Corequisites: None
This course covers the skills necessary to handle human relationships effectively. Topics include self-understanding, interpersonal communication, group dynamics, leadership skills, diversity, time and stress management, and conflict resolution with emphasis on work relationships. Upon completion, students should be able to demonstrate improved personal and interpersonal effectiveness. *This course is intended for certificate and diploma programs.*

PSY 110 Life Span Development **3 0 3**
Prerequisites: None
Corequisites: None
This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study. *This course is intended for certificate, diploma, and A.A.S. degree programs.*

PSY 115 Stress Management **2 0 2**
Prerequisites: None
Corequisites: None
This course covers stressors and techniques for stress management. Topics include anger, assertiveness, adaptation to change, conflict, coping skills, identification of stressors, time management, and the physiology of stress and burnout. Upon completion, students should be able to demonstrate an understanding of the effective management of stress. *This course is intended for certificate, diploma, and A.A.S. degree programs.*

PSY 118 Interpersonal Psychology **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development. *This course is intended for all Associate degree programs.*

PSY 150 General Psychology **3 0 3**
Prerequisites: None
Corequisites: None
This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

PSY 234 Organizational Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course introduces the field of industrial and organizational psychology. Topics include employee motivation, organizational structure, leadership, selection and training, conflict resolution, communication, job satisfaction, and other related influences on performance. Upon completion, students should be able to demonstrate a basic understanding of organizational dynamics and behaviors in the work place.

PSY 237 Social Psychology **3 0 3**
Prerequisites: PSY 150 or SOC 210
Corequisites: None
This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

PSY 241 Developmental Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

PSY 243 Child Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course provides an overview of physical, cognitive, and psychosocial development from conception through adolescence. Topics include theories and research, interaction of biological and environmental factors, language development, learning and cognitive processes, social relations, and moral development. Upon completion, students should be able to identify typical and atypical childhood behavior patterns as well as appropriate strategies for interacting with children.

PSY 246 Adolescent Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course provides an overview of the behavior patterns, life changes, and social issues that accompany the developmental stage of adolescence. Topics include developmental theories; physical, cognitive and psychosocial growth; transitions to young adulthood; and sociocultural factors that influence adolescent roles in home, school and community. Upon completion, students should be able to identify typical and atypical adolescent behavior patterns as well as appropriate strategies for interacting with adolescents.

PSY 249 Psychology of Aging **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course covers the particular needs and behaviors of the maturing adult. Emphasis is placed on psychosocial processes; biological and intellectual aspects of aging; adjustments to retirement, dying, bereavement; and the stereotypes and misconceptions concerning the elderly. Upon completion, students should be able to show an understanding of the psychological factors related to the aging process.

PSY 255 Introduction to Exceptionality **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course introduces the psychology of the exceptional person. Topics include theoretical perspectives, terminology, and interventions pertaining to various handicapping conditions as well as the resulting psychosocial adjustments. Upon completion, students should be able to demonstrate a basic understanding of the potentials and limitations of the exceptional person.

PSY 271 Sports Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course provides an overview of the field of sports and exercise psychology. Topics include concentration, goal setting, arousal level, exercise psychology, mental imagery, confidence, and other issues related to sport and exercise performance. Upon completion, students should be able to demonstrate a knowledge of psychological factors involved in sport and exercise.

PSY 275 Health Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course covers the biopsychosocial dynamics of stress and the maintenance of good health. Topics include enhancing health and well-being, stress management, lifestyle choices and attitudes, the mind-body relationship, nutrition, exercise, and fitness. Upon completion, students should be able to demonstrate an understanding of the psychological factors related to health and well-being.

PSY 281 Abnormal Psychology **3 0 3**
Prerequisites: PSY 150
Corequisites: None
This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.*

Radiography

RAD 110 Radiography Introduction and Patient Care **2 3 0 3**
Prerequisites: Enrollment in Radiography program
Corequisites: RAD 111, RAD 151, and RAD 182
This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas.

RAD 111 RAD Procedures I **3 3 0 4**
Prerequisites: Enrollment in the Radiography program
Corequisites: RAD 110, RAD 151, and RAD 182
This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, spine, and pelvis. Upon completion, students should be able to demonstrate competence in these areas.

RAD 112 RAD Procedures II **3 3 0 4**
Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182
Corequisites: RAD 121 and RAD 161
This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, bony thorax, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas.

RAD 121 Radiographic Imaging I **2 3 0 3**
Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182
Corequisites: RAD 112 and RAD 161
This course covers factors of image quality and methods of exposure control. Topics include density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Upon completion, students should be able to demonstrate an understanding of exposure control and the effects of exposure factors on image quality.

RAD 122 Radiographic Imaging II 1 3 0 2
Prerequisites: RAD 112, RAD 121, and RAD 161
Corequisites: RAD 131 and RAD 171
This course covers image receptor systems and processing principles. Topics include film, film storage, processing, intensifying screens, grids, and beam limitation. Upon completion, students should be able to demonstrate the principles of selection and usage of imaging accessories to produce quality images.

RAD 131 Radiographic Physics I 1 3 0 2
Prerequisites: RAD 112, RAD 121, and RAD 161
Corequisites: RAD 122 and RAD 171
This course introduces the fundamental principles of physics that underlie diagnostic X-ray production and radiography. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Upon completion, students should be able to demonstrate an understanding of basic principles of physics as they relate to the operation of radiographic equipment.

***RAD 151 RAD Clinical Education I** 0 0 6 2
Prerequisites: Enrollment in the Radiography program
Corequisites: RAD 110, RAD 111, and RAD 182
This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives. This course is designed to be taken in conjunction with RAD 182 - RAD Clinical Elective.

***RAD 161 RAD Clinical Education II** 0 0 15 5
Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182
Corequisites: RAD 112 and RAD 121
This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax, and adapting procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

***RAD 171 RAD Clinical Education III** 0 0 12 4
Prerequisites: RAD 112, RAD 121, and RAD 161
Corequisites: RAD 122 and RAD 131
This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

***RAD 182 RAD Clinical Elective** 0 0 6 2
Prerequisites: Enrollment in the Radiography program
Corequisites: RAD 110, RAD 111, and RAD 151
This course provides advanced knowledge of clinical applications. Emphasis is placed on enhancing clinical skills. Upon completion, students should be able to successfully complete the clinical course objectives. This course is designed to be taken in conjunction with RAD 151 - Clinical Ed I.

RAD 211 RAD Procedures III 2 3 0 3

Prerequisites: RAD 112 and RAD 122
Corequisites: RAD 231, RAD 241, and RAD 251

This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, pathology, and advanced imaging. Upon completion, students should be able to demonstrate competence in these areas.

RAD 231 Radiographic Physics II 1 3 0 2

Prerequisites: RAD 122, RAD 131, and RAD 171
Corequisites: RAD 211, RAD 241, and RAD 251

This course continues the study of physics that underlie diagnostic X-ray production and radiographic and fluoroscopic equipment. Topics include X-ray production, electromagnetic interactions with matter, X-ray devices, equipment circuitry, targets, filtration, and dosimetry. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts as related to image production.

RAD 241 Radiation Protection 2 0 0 2

Prerequisites: RAD 112, RAD 131, and RAD 171
Corequisites: RAD 211, RAD 231, and RAD 251

This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology.

RAD 245 Radiographic Analysis 2 3 0 3

Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251
Corequisites: RAD 261

This course provides an overview of imaging concepts and introduces methods of quality assurance. Topics include a systematic approach for image evaluation and analysis of imaging service and quality assurance. Upon completion, students should be able to establish and administer a quality assurance program and conduct a critical review of images.

***RAD 251 RAD Clinical Education IV** 0 0 21 7

Prerequisites: RAD 122, RAD 131, and RAD 171
Corequisites: RAD 211, RAD 231, and RAD 241

This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

***RAD 261 RAD Clinical Education V** 0 0 21 7

Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251
Corequisites: RAD 245

This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

RAD 291 Selected Topics in Radiography 0 3 0 1
Prerequisites: Enrollment in the Radiography program
RAD 211, RAD 231, RAD 241, and RAD 251
Corequisites: RAD 245 and RAD 261
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. This course is designed to serve as a capstone course for the final semester Radiography student upon completion of course work in previous semesters.

Real Estate Appraisal

***REA 101 Introduction to Real Estate Appraisal R-1** 2 0 2
Prerequisites: None
Corequisites: None
This course introduces the entire valuation process, with specific coverage of residential neighborhood and property analysis. Topics include basic real property law, concepts of value and operation of real estate markets, mathematical and statistical concepts, finance, and residential construction/design. Upon completion, students should be able to demonstrate adequate preparation for REA 102. *This course is required for the Real Estate Appraisal certificate.*

***REA 102 Valuation Principles and Procedures R-2** 2 0 2
Prerequisites: REA 101
Corequisites: None
This course introduces procedures used to develop an estimate of value and how the various principles of value relate to the application of such procedures. Topics include the sales comparison approach, site valuation, sales comparison, the cost approach, the income approach, and reconcilliation. Upon completion, students should be able to complete the Uniform Residential Appraisal Report (URAR). *This course is required for the Real Estate Appraisal certificate.*

***REA 103 Applied Residential Property Valuation R-3** 2 0 2
Prerequisites: REA 102
Corequisites: None
This course covers the laws and standards practiced by appraisers in the appraisal of residential 1-4 unit properties and small farms. Topics include Financial Institutions Reform and Recovery Enforcement Act (FIRREA), Uniform Standards of Professional Appraisal Practice (USPAP), and North Carolina statutes and rules. Upon completion, students should be able to demonstrate eligibility to sit for the NC Appraisal Board license trainee examination and to enroll in REA 201. *This course is required for the Real Estate Appraisal certificate.*

***REA 201 Introduction to Income Property Appraisal G-1** 2 0 2
Prerequisites: REA 103
Corequisites: None
This course introduces concepts and techniques used to appraise real estate income properties. Topics include real estate market analysis, property analysis and site valuation, how to use financial calculators, present value, NOI, and before-tax cash flow. Upon completion, students should be able to estimate income property values using direct capitalization and to sit for the NC Certified Residential Appraisor examination. *This course is required for the Real Estate Appraisal certificate.*

***REA 202 Advanced Income Capitalization Procedures G-2** **2 0 2**
Prerequisites: REA 201
Corequisites: A financial calculator is required for this course.
This course expands direct capitalization techniques and introduces yield capitalization. Topics include yield rates, discounted cash flow, financial leverage, and traditional yield capitalization formulas. Upon completion, students should be able to estimate the value of income producing property using yield capitalization techniques. *This course is required for the Real Estate Appraisal certificate.*

***REA 203 Applied Income Property Valuation G-3** **2 0 2**
Prerequisites: REA 202
Corequisites: None
This course covers the laws, rules, and standards pertaining to the principles and practices applicable to the appraisal of income properties. Topics include FIRREA, USPAP, Uniform Commercial and Industrial Appraisal Report (UCIAR) form, North Carolina statutes and rules, and case studies. Upon completion, students should be able to prepare a narrative report that conforms to the USPAP and sit for the NC Certified General Appraisla examination. *This course is required for the Real Estate Appraisal certificate.*

Reading

RED 080 Introduction to College Reading **3 2 4**
Prerequisites: RED 070 or ENG 075 or Placement
Corequisites: None
This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. *This course does not satisfy the developmental reading prerequisite for ENG 111 or ENG 111A.*

RED 090 Improved College Reading **3 2 4**
Prerequisites: RED 080 or ENG 085
Corequisites: None
This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. *This course satisfies the developmental reading prerequisite for ENG 111 or ENG 111A.*

Religion

REL 110 World Religions **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Real Estate

***RLS 112 Real Estate Fundamentals** 4 0 4
Prerequisites: None
Corequisites: None
This course provides basic instruction in real estate principles and practices. Topics include law, finance, brokerage, closing, valuation, management, taxation, mathematics, construction, land use, property insurance, and NC License Law and Commission Rules. Upon completion, students should be able to demonstrate basic knowledge and skills necessary for real estate sales.

RLS 113 Real Estate Mathematics 2 0 2
Prerequisites: None
Corequisites: None
This course provides basic instruction in business mathematics applicable to real estate situations. Topics include area computations, percentage of profit/loss, bookkeeping and accounting methods, appreciation and depreciation, financial calculations and interest yields, property valuation, insurance, taxes, and commissions. Upon completion, students should be able to demonstrate proficiency in applied real estate mathematics.

***RLS 114 Real Estate Brokerage** 2 0 2
Prerequisites: RLS 112 or current Real Estate license
Corequisites: None
This course provides basic instruction in the various real estate brokerage operations, including trust account records and procedures. Topics include establishing a brokerage firm, management concepts and practices, personnel and training, property management, advertising and publicity, records and bookkeeping systems, and financial operations. Upon completion, students should be able to establish, operate, and manage a realty brokerage practice in a manner which protects and serves the public interest.

***RLS 115 Real Estate Finance** 2 0 2
Prerequisites: RLS 112 or current Real Estate license
Corequisites: None
This course provides advanced instruction in financing real estate transactions and real property valuation. Topics include sources of mortgage funds, financing instruments, mortgage types, loan underwriting, essential mathematics, and property valuation. Upon completion, students should be able to demonstrate knowledge of real estate finance necessary to act as real estate brokers.

***RLS 116 Real Estate Law** 2 0 2
Prerequisites: RLS 112 or current Real Estate license
Corequisites: None
This course provides advanced instruction in legal aspects of real estate brokerage. Topics include property ownership and interests, brokerage relationships, agency law, contracts, settlement statements, and NC License Law and Commission Rules. Upon completion, students should be able to demonstrate knowledge of laws relating to real estate brokerage necessary to act as real estate brokers.

Social/Behavioral Science Courses

The following courses are classified as Social/Behavioral Sciences. For more information, see the course description.

ANTHROPOLOGY

ANT 210	General Anthropology	ANT 220	Cultural Anthropology
ANT 230	Physical Anthropology		

ECONOMICS

ECO 151	Survey of Economics	ECO 251	Principles of Microeconomics
ECO 252	Principles of Macroeconomics		

GEOGRAPHY

GEO 111	World Regional Geography	GEO 112	Cultural Geography
GEO 121	North Carolina Geography	GEO 130	General Physical Geography

HISTORY

HIS 111	World Civilizations I	HIS 112	World Civilizations II
HIS 116	Current World Problems	HIS 117	History of Religions
HIS 124	Western Cultural History	HIS 131	American History I
HIS 132	American History II	HIS 141	Genealogy & Local History
HIS 162	Women and History	HIS 167	The Vietnam War
HIS 211	Ancient History	HIS 212	Medieval History
HIS 215	Nineteenth-Century Europe	HIS 227	Native American History
HIS 233	History of Appalachia	HIS 234	Cherokee History
HIS 236	North Carolina History	HIS 271	The French Revolution Era

POLITICAL SCIENCES

POL 120	American Government	POL 130	State and Local Government
POL 210	Comparative Government		

PSYCHOLOGY

PSY 102	Human Relations	PSY 110	Life Span Development
PSY 115	Stress Management	PSY 118	Interpersonal Psychology
PSY 150	General Psychology	PSY 234	Organizational Psychology
PSY 237	Social Psychology	PSY 241	Developmental Psych
PSY 243	Child Psychology	PSY 246	Adolescent Psychology
PSY 249	Psychology of Aging	PSY 255	Intro to Exceptionality
PSY 271	Sports Psychology	PSY 275	Health Psychology
PSY 281	Abnormal Psychology		

SOCIOLOGY

SOC 210	Introduction to Sociology	SOC 213	Sociology of the Family
SOC 215	Group Processes	SOC 220	Social Problems
SOC 225	Social Diversity	SOC 240	Social Psychology

Substance Abuse

***SAB 110 Substance Abuse Overview** **3 0 0 3**
Prerequisites: None
Corequisites: None
This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventative measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment.

Sociology

SOC 210 Introduction to Sociology **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

SOC 213 Sociology of the Family **3 0 3**
Prerequisites: None
Corequisites: None
This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

SOC 215 Group Processes **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces group processes and dynamics. Emphasis is placed on small group experiences, roles and relationships within groups, communication, cooperation and conflict resolution, and managing diversity within and among groups. Upon completion, students should be able to demonstrate the knowledge and skills essential to analyze group interaction and to work effectively in a group context.

SOC 220 Social Problems **3 0 3**
Prerequisites: None
Corequisites: None
This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

SOC 225 Social Diversity **3 0 3**
Prerequisites: None
Corequisites: None
This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

SOC 240 Social Psychology **3 0 3**
Prerequisites: None
Corequisites: None
This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

Spanish

SPA 110 Introduction to Spanish **2 0 2**
Prerequisites: None
Corequisites: None
This course provides an introduction to understanding, speaking, reading, and writing Spanish. Emphasis is placed on pronunciation, parts of speech, communicative phrases, culture, and skills for language acquisition. Upon completion, students should be able to identify and apply basic grammar concepts, display cultural awareness, and communicate in simple phrases in Spanish. Lab practice is expected of students.

SPA 111 Elementary Spanish I **3 0 3**
Prerequisites: None
Corequisites: None
This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SPA 112 Elementary Spanish II **3 0 3**
Prerequisites: SPA 111
Corequisites: None
This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SPA 211 Intermediate Spanish I 3 0 3
Prerequisites: SPA 112
Corequisites: None
This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SPA 212 Intermediate Spanish II 3 0 3
Prerequisites: SPA 211
Corequisites: None
This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. Lab practice is expected of students. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

Surveying

SRV 110 Surveying I 2 6 4
Prerequisites: EGR 115 and MAT 121
Corequisites: None
This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying.

SRV 111 Surveying II 2 6 4
Prerequisites: SRV 110
Corequisites: None
This course introduces route surveying and roadway planning and layout. Topics include simple, compound, reverse, spiral, and vertical curves; geometric design and layout; planning of cross-section and grade line; drainage; earthwork calculations; and mass diagrams. Upon completion, students should be able to calculate and lay out highway curves; prepare roadway plans, profiles, and sections; and perform slope staking.

SRV 210 Surveying III 2 6 4
Prerequisites: SRV 110
Corequisites: None
This course introduces boundary surveying, land partitioning, and calculations of areas. Topics include advanced traverses and adjustments, preparation of survey documents, and other related topics. Upon completion, students should be able to research, survey, and map a boundary.

SRV 220 Surveying Law 2 2 3
Prerequisites: SRV 110
Corequisites: None
This course introduces the law as related to the practice of surveying. Topics include surveyors' responsibilities, deed descriptions, title searches, eminent domain, easements, weight of evidence, riparian rights, and other related topics. Upon completion, students should be able to identify and apply the basic legal aspects associated with the practice of land surveying.

SRV 230 Subdivision Planning 1 6 3
Prerequisites: SRV 111, SRV 210, and CIV 211
Corequisites: None
This course covers the planning aspects of residential subdivisions from analysis of owner and municipal requirements to plat layout and design. Topics include municipal codes, lot sizing, roads, incidental drainage, esthetic considerations, and other related topics. Upon completion, students should be able to prepare a set of subdivision plans.

SRV 240 Topographic/Site Surveying 2 6 4
Prerequisites: SRV 210
Corequisites: None
This course covers topographic, site, and construction surveying. Topics include topographic mapping, earthwork, site planning, construction staking, and other related topics. Upon completion, students should be able to prepare topographic maps and site plans and locate and stake out construction projects.

SRV 250 Advanced Surveying 2 6 4
Prerequisites: SRV 111
Corequisites: None
This course covers advanced topics in surveying. Topics include photogrammetry, astronomical observations, coordinate systems, error theory, GPS, GIS, Public Land System, and other related topics. Upon completion, students should be able to apply advanced techniques to the solution of complex surveying problems.

SRV 260 Field and Office Practices 1 3 2
Prerequisites: Completion of three semesters of the Surveying Technology program
Corequisites: None
This course covers surveying project management, estimating, and responsibilities of surveying personnel. Topics include record-keeping, starting and operating a surveying business, contracts, regulations, taxes, personnel management, and professional ethics. Upon completion, students should be able to understand the requirements of operating a professional land surveying business.

Social Work

***SWK 110 Introduction to Social Work** 3 0 0 3
Prerequisites: None
Corequisites: None
This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional.

***SWK 113 Working with Diversity** **3 0 0 3**
Prerequisites: None
Corequisites: None
This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations.

SWK 115 Community Resources **2 2 0 3**
Prerequisites: SWK 110
Corequisites: None
This course introduces community resources essential to social work practice. Emphasis is placed on awareness of and interaction with community service personnel. Upon completion, students should be able to identify resources and assess critical community needs. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

***SWK 214 Social Work Law** **3 0 0 3**
Prerequisites: SWK 110
Corequisites: None
This course introduces the major provisions of social services law, current trends, legislative developments, and court procedures. Emphasis is placed on the interpretation of the laws and court decisions related to various social services populations. Upon completion, students should be able to interpret these laws and their implications for social services practice. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

***SWK 220 SWK Issues in Client Services** **3 0 0 3**
Prerequisites:
Corequisites: None
This course introduces the professional standards, values, and issues in social services. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics. Upon completion, students should be able to understand and discuss multiple ethical issues applicable to social work and apply various decision-making models to current issues. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

Welding

WLD 110 Cutting Processes **1 3 2**
Prerequisites: None
Corequisites: None
This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

WLD 112 Basic Welding Processes **1 3 2**

Prerequisites: None

Corequisites: None

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

WLD 115 SMAW (Stick) Plate **2 9 5**

Prerequisites: None

Corequisites: None

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

WLD 116 SMAW (Stick) Plate/Pipe **1 9 4**

Prerequisites: WLD 115

Corequisites: None

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions.

WLD 121 GMAW (MIG) FCAW/Plate **2 6 4**

Prerequisites: None

Corequisites: None

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

WLD 122 GMAW (MIG) Plate/Pipe **1 6 3**

Prerequisites: WLD 121

Corequisites: None

This course is designed to enhance skills with the gas metal arc (MIG) welding process. Emphasis is placed on advancing skills with the GMAW process making groove welds on carbon steel plate and pipe in various positions. Upon completion, students should be able to perform groove welds with prescribed electrodes on various joint geometry

WLD 131 GTAW (TIG) Plate **2 6 4**

Prerequisites: None

Corequisites: None

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

WLD 132 GTAW (TIG) Plate/Pipe 1 6 3
Prerequisites: WLD 131
Corequisites: None

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

WLD 141 Symbols and Specifications 2 2 3
Prerequisites: None
Corequisites: None

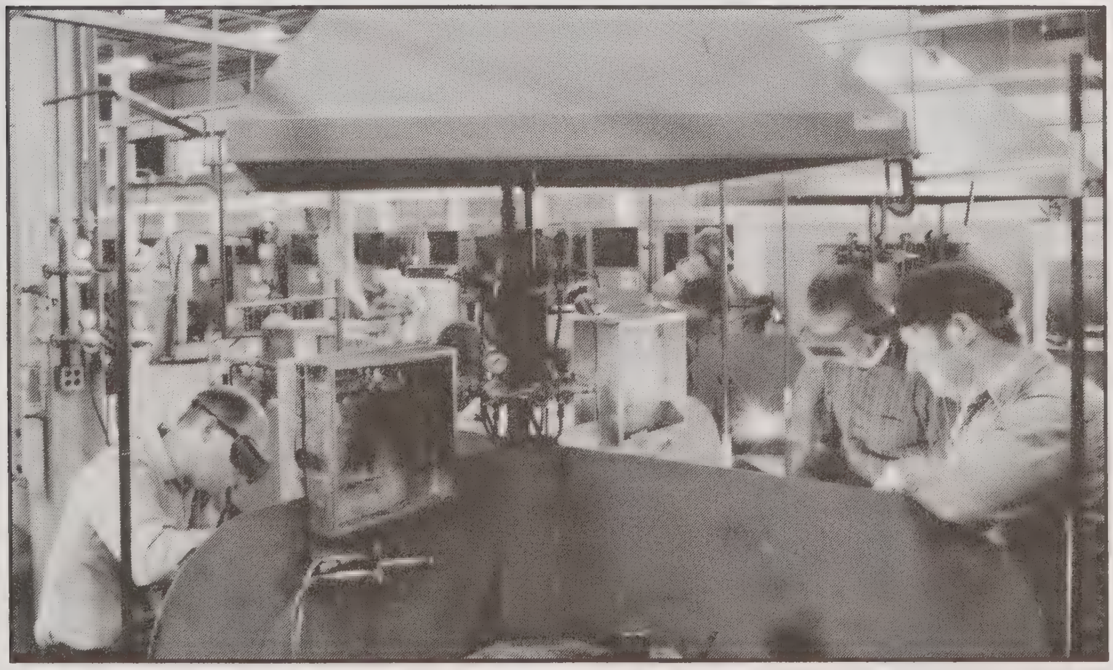
This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 151 Fabrication I 2 6 4
Prerequisites: WLD 110, WLD 115, WLD 116, and WLD 131
Corequisites: None

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

WLD 215 SMAW (Stick) Pipe 1 9 4
Prerequisites: WLD 115 or WLD 116
Corequisites: None

This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions



Welding Technology heats up the future careers of its students.

Students enjoy a variety of campus activities.

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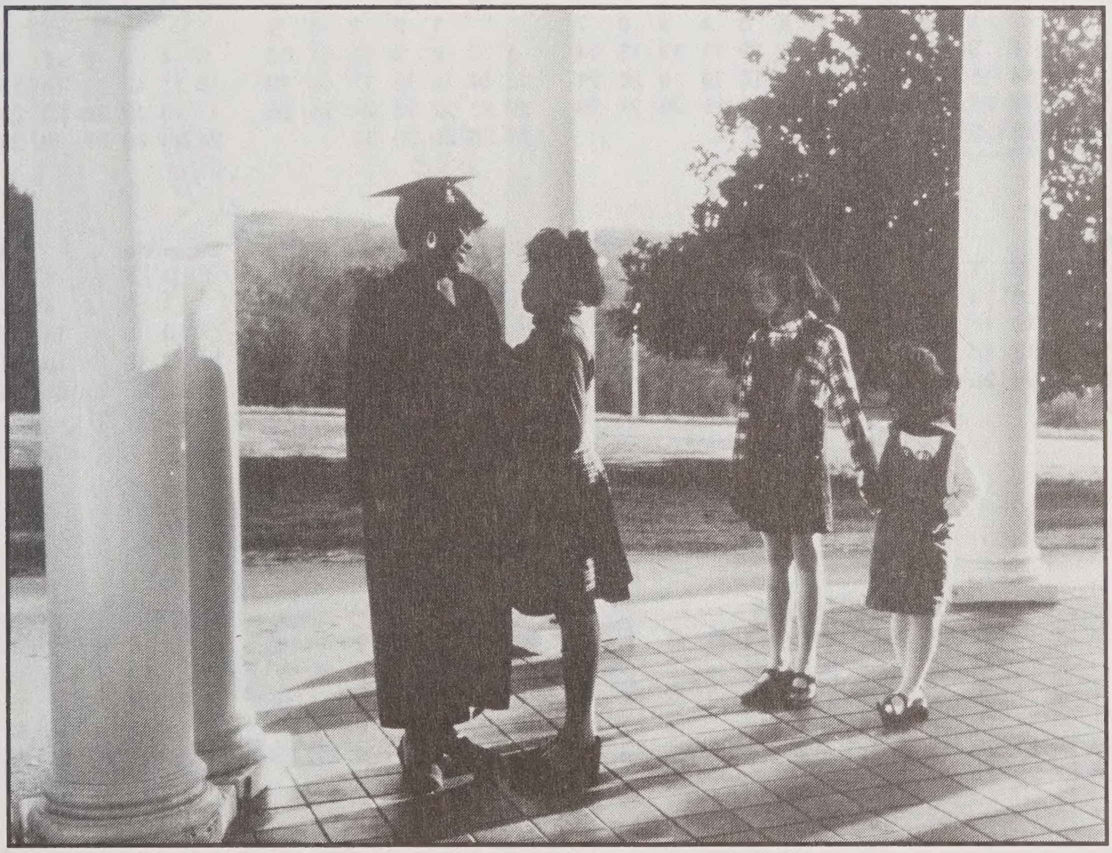

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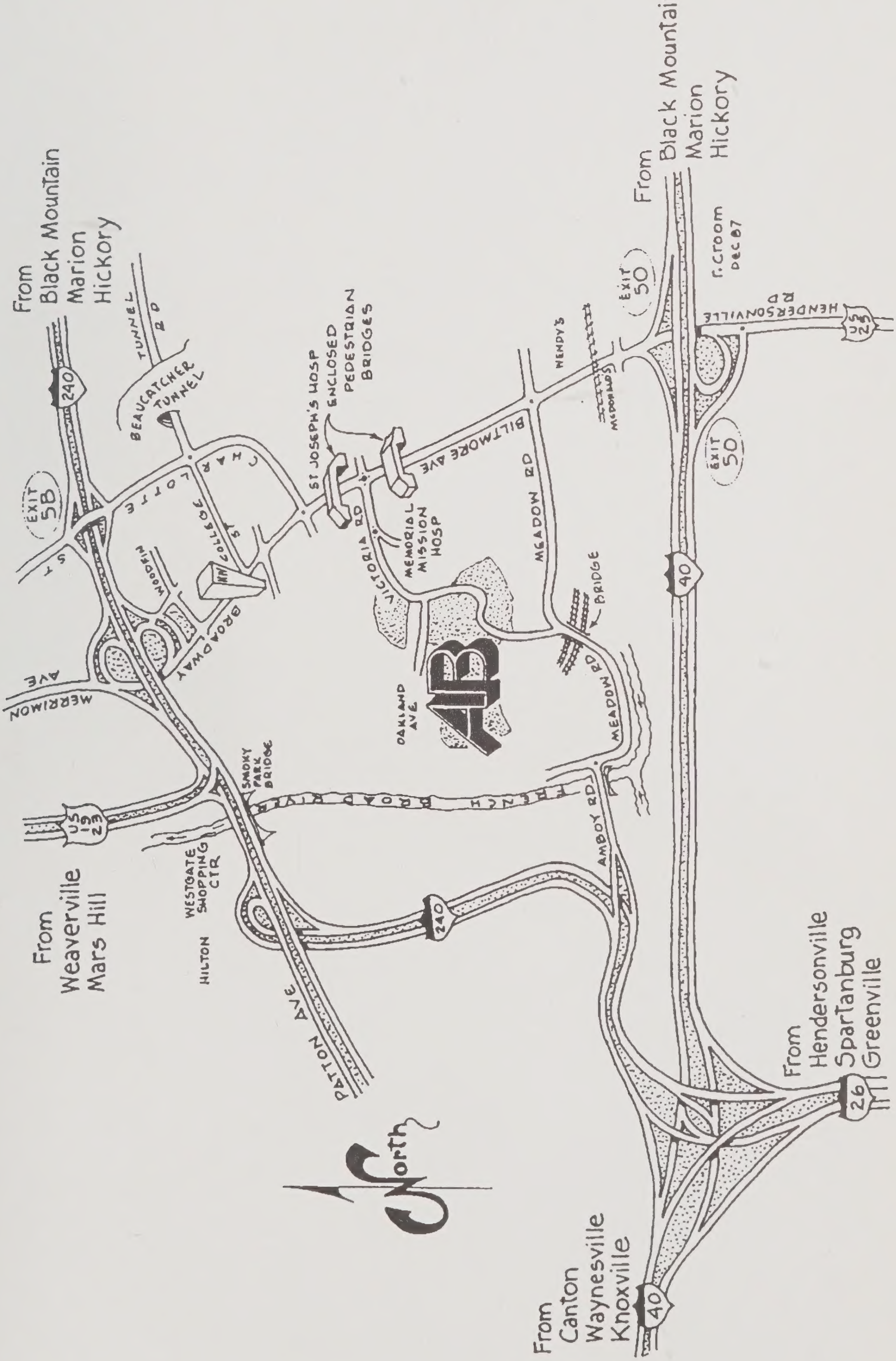
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